

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-----------|----------------|--|--|---|---|---|---|---|--|--|
| District. | Subdivision. | Total area of subdivision and district in acres. | Total area estimated to be under cultivation in acres. | Approximate normal area under winter rice in acres. | Approximate area under winter rice last year (1901) in acres. | Estimated area under winter rice this year (1902) in acres. | Taking 100 to represent the normal outturn, how much represented the outturn last year (1901) ? | Taking 100 to represent the normal outturn, how much will represent the year's outturn (1902) ? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
| Bakura | Sadar | 1,225,440 | 408,800 | 346,000 | 330,000 | 250,000 | 83 | 50 | There was slight rain during the latter part of September, and since then the rainfall has been very scanty. Hence the outturn is much below the normal. | |
| | Vidnapur | 445,000 | 214,000 | 160,400 | 175,000 | 150,000 | 83 | 60 | | |
| | District Total | 1,677,440 | 642,800 | 507,000 | 505,000 | 400,000 | 83 | 54 | | |
| | | | | | | | | | | |
| Midnapore | Sadar | 3,319,040 | 1,240,300 | 717,500 | 750,500 | 750,500 | 90 | 85 | The short crop is due to late rains for trans-plantation and deficient rains in September and October. | |
| | Coxfai | | 440,100 | 355,700 | 354,300 | 354,300 | 95 | 85 | | |
| | Tamink | | 330,600 | 230,200 | 220,000 | 230,000 | 80 | 80 | | |
| | Gbatal | | 171,600 | 118,300 | 105,000 | 105,000 | 75 | 80 | | |
| Meegbly | District Total | 3,319,040 | 2,190,600 | 1,412,700 | 1,489,800 | 1,409,800 | 88 | 84 | Owing to want of rain in October, when it was badly needed, the outturn is below the preliminary estimate. | |
| | Sadar | 282,880 | 134,000 | 115,900 | 100,000 | 110,000 | 75 | 80 | | |
| | Scramapore | 219,520 | 111,000 | 85,000 | 85,000 | 85,000 | 75 | 90 | | |
| | Arambegh | 288,500 | 117,000 | 78,000 | 68,000 | 60,000 | 75 | 60 | | |
| Meegbly | Howrah | 110,720 | 47,900 | 40,800 | 40,800 | 45,000 | 75 | 75 | | |
| | Ulubarna | 215,680 | 89,100 | 76,600 | 60,000 | 65,000 | 75 | 80 | | |
| | District Total | 1,687,360 | 468,900 | 396,200 | 354,700 | 362,800 | 75 | 78 | | |
| | | | | | | | | | | |

| | | | | | | | | | | |
|----------------|-----------------|-----|-----|-----------|-----------|---------|---------|---------|-----|---|
| 24. Parganas | Sadar | ... | ... | ... | 468,700 | 261,700 | 304,100 | 300,300 | 100 | The figure in column 5 of the Sadar subdivision has been revised. The outturn will be adversely affected in the Barasat and Diamond Harbour subdivisions, owing to partial failure of October rains. |
| | Barasat | ... | ... | ... | 173,400 | 102,100 | 117,100 | 117,100 | 100 | |
| | Besirhat | ... | ... | ... | 207,900 | 142,900 | 182,500 | 182,500 | 100 | |
| | Diamond Harbour | ... | ... | ... | 290,200 | 230,800 | 263,200 | 239,400 | 115 | |
| | District Total | ... | ... | 8,574,831 | 1,684,200 | 745,500 | 805,900 | 889,300 | 101 | |
| Nadia | Sadar | ... | ... | ... | 174,100 | 18,300 | 18,000 | 15,400 | 80 | The decrease in the outturn as compared with that shown in the preliminary forecast is due to want of rainfall during October. |
| | Kuhia | ... | ... | 448,640 | 134,700 | 19,600 | 19,400 | 27,400 | 95 | |
| | Melherpur | ... | ... | 381,440 | 142,600 | 21,400 | 25,000 | 30,000 | 85 | |
| | Chudanga | ... | ... | 404,480 | 82,700 | 8,600 | 8,000 | 8,700 | 60 | |
| | Banaghat | ... | ... | 273,280 | 98,400 | 22,200 | 25,200 | 27,700 | 67 | |
| Murshidabad | District Total | ... | ... | 1,787,630 | 630,570 | 85,100 | 98,200 | 109,300 | 81 | |
| | Sadar | ... | ... | ... | 392,300 | 67,600 | 693,000 | 69,000 | 80 | The decrease in the outturn as compared with that shown in the preliminary forecast is due to want of rainfall during October. |
| | Lalbagh | ... | ... | 481,280 | 142,707 | 43,000 | 44,700 | 67,400 | 78 | |
| | Jangipur | ... | ... | 328,080 | 224,000 | 27,000 | 25,000 | 27,000 | 100 | |
| | Kandi | ... | ... | 327,680 | 235,900 | 138,600 | 165,200 | 188,600 | 75 | |
| Jessore | District Total | ... | ... | 1,373,440 | 985,500 | 277,100 | 293,900 | 293,000 | 67 | |
| | Sadar | ... | ... | ... | 304,050 | 153,300 | 140,000 | 140,200 | 80 | The decrease in the outturn as compared with that shown in the preliminary forecast is due to want of rainfall during October. |
| | Jhenida | ... | ... | 508,960 | 235,000 | 64,000 | 43,100 | 49,000 | 85 | |
| | Bongong | ... | ... | 412,360 | 240,000 | 77,000 | 160,000 | 150,000 | 60 | |
| | Mugura | ... | ... | 272,000 | 171,500 | 82,070 | 82,000 | 84,700 | 50 | |
| District Total | Narail | ... | ... | 311,080 | 240,300 | 180,300 | 125,000 | 125,000 | 80 | |
| | District Total | ... | ... | 1,872,000 | 1,203,800 | 556,600 | 542,100 | 515,900 | 74 | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---------------|--|--|--|---|---|---|--|--|---|--|
| District. | Subdivision. | Total area of subdivision and district in acres. | Total area estimated to be under cultivation in acres. | Approximate normal area under winter rice in acres. | Approximate area under winter rice last year (1901) in acres. | Estimated area under winter rice this year (1902) in acres. | Taking 100 to represent the normal output, how much will represent the output last year (1901) ? | Taking 100 to represent the normal output, how much will represent this year's output (1902) ? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
| Khulna .. | Sadar .. | 1,036,336 | 253,400 | 224,900 | 235,600 | 235,500 | 80 | 100 | The increase in the area this year is due to favourable rainfall. | |
| | Satkhira .. | 814,643 | 250,600 | 190,300 | 205,000 | 202,000 | 75 | 100 | | |
| | Basirhat .. | 962,523 | 277,100 | 234,000 | 234,000 | 234,000 | 80 | 100 | | |
| | Area of boundary khals and rivers of the Sundarbans. | 317,440 | ... | ... | ... | ... | ... | ... | | |
| | District Total .. | 3,108,942 | 870,000 | 658,100 | 664,600 | 671,500 | 78 | 97 | | |
| Bajeshahi ... | Sadar .. | 531,760 | 380,000 | 192,000 | 182,000 | 192,000 | 70 | 110 | The season has been very favourable to winter saddy. | |
| | Nator .. | 523,530 | 402,100 | 197,400 | 175,300 | 197,400 | 75 | 110 | | |
| | Nagason .. | 252,760 | 470,000 | 307,800 | 250,000 | 307,600 | 63 | 119 | | |
| | District Total ... | 1,608,040 | 1,252,100 | 697,000 | 604,300 | 697,000 | 69 | 110 | | |
| | | | | | | | | | | |
| Dhupjher ... | Sadar .. | 1,776,640 | 1,280,300 | 863,300 | 774,800 | 780,000 | 60 | 100 | | |
| | Thakurgaon .. | 740,440 | 417,400 | 251,106 | 251,100 | 260,000 | 60 | 100 | | |
| | District Total ... | 2,517,080 | 1,697,600 | 1,114,300 | 1,025,900 | 1,040,000 | 60 | 100 | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-------------|----------------|--|--|---|---|---|---|--|--|--|
| District. | Subdivision. | Total area of subdivision and district in acres. | Total area estimated to be under cultivation in acres. | Approximate normal area under winter rice in acres. | Approximate area under winter rice last year (1901) in acres. | Estimated area under winter rice this year (1902) in acres. | Taking 100 to represent the normal outturn, how much represented the outturn last year (1901) ? | Taking 100 to represent the normal outturn, how much will represent this year's outturn (1902) ? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
| Mymensingh. | Sadar | 1,183,360 | 687,000 | 246,700 | 259,500 | 250,500 | 100 | 110 | | |
| | Netrakona | 667,000 | 284,000 | 102,000 | 103,000 | 103,000 | 90 | 100 | | |
| | Kishoreganj | 667,620 | 284,000 | 122,700 | 125,000 | 125,000 | 100 | 80 | | |
| | Jamalpur | 824,900 | 627,500 | 272,100 | 274,000 | 274,000 | 80 | 90 | | |
| | Tungail | 679,940 | 535,000 | 205,000 | 210,000 | 205,000 | 100 | 95 | | |
| | District Total | 4,052,480 | 2,405,700 | 1,011,500 | 1,052,500 | 1,031,500 | 93 | 96 | | |
| Faridpur | Sadar | 550,400 | 400,000 | 270,000 | 269,000 | 265,000 | 100 | 100 | | |
| | Gaibandha | 273,920 | 200,000 | 68,000 | 67,700 | 68,000 | 100 | 100 | | |
| | Madaripur | 635,680 | 636,000 | 233,000 | 232,800 | 233,000 | 100 | 100 | | |
| | District Total | 1,459,840 | 1,132,000 | 561,000 | 559,500 | 556,000 | 100 | 100 | | |
| Backerganj | Sadar | 711,040 | 450,000 | 325,000 | 325,000 | 325,000 | 100 | 100 | A normal outturn is expected everywhere. The slight increase in area in the Bhola subdivision is due to the fact that some land under ase was sown with amara when the former crop failed. | |
| | Pirojpur | 442,880 | 350,000 | 275,000 | 275,000 | 275,000 | 100 | 100 | | |
| | Patuakhali | 737,840 | 350,000 | 307,000 | 300,000 | 300,000 | 100 | 100 | | |
| | Bhola | 893,680 | 355,000 | 200,000 | 200,000 | 210,000 | 100 | 100 | | |
| | District Total | 2,885,360 | 1,400,000 | 1,100,000 | 1,100,000 | 1,110,000 | 100 | 100 | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-----------|-------------------|--|--|---|---|---|---|---|---|--|
| District. | Subdivision. | Total area of subdivision and district in acres. | Total area estimated to be under cultivation in acres. | Approximate normal area under winter rice in acres. | Approximate area under winter rice last year (1901) in acres. | Estimated area under winter rice this year (1902) in acres. | Taking 100 to represent the normal outturn, how much represented the outturn last year (1901) ? | Taking 100 to represent the normal outturn, how much will represent this year's out-turn (1902) ? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
| Shahabad | Arrah .. | 554,359 | 487,400 | 925,000 | 943,000 | 840,000 | 54 | 100 | | |
| | Buxar .. | 488,160 | 340,000 | 234,500 | 231,500 | 234,500 | 95 | 100 | | |
| | Baseraim .. | 963,600 | 644,400 | 325,000 | 153,300 | 306,800 | 44 | 95 | | |
| | Bhabhua .. | 882,640 | 470,000 | 313,500 | 280,000 | 399,000 | 50 | 95 | | |
| | District Total .. | 2,798,720 | 1,841,800 | 1,288,000 | 907,800 | 1,081,300 | 54 | 95 | | |
| Saran .. | Sadar .. | 673,140 | 547,500 | 141,200 | 134,200 | 127,000 | 25 | 75 | Since the submission of the preliminary forecast, rains fell in the latter part of September. Hence area under the crop increased and the prospect of outturn improved. | |
| | Siwan .. | 42,156 | 423,300 | 142,000 | 130,000 | 80,000 | 25 | 60 | | |
| | Gopalganj .. | 483,440 | 386,400 | 90,600 | 90,600 | 90,000 | 25 | 100 | | |
| | District Total .. | 1,798,726 | 1,357,200 | 373,800 | 354,800 | 297,000 | 55 | 78 | | |
| Champaran | Sadar .. | 971,520 | 760,900 | 287,000 | 367,000 | 257,000 | 40 | 120 | The increase in the area and outturn is due to favourable rainfall throughout the year. | |
| | Bettiah .. | 1,288,320 | 686,700 | 283,000 | 250,000 | 300,000 | 40 | 110 | | |
| | District Total .. | 2,259,840 | 1,447,600 | 550,000 | 617,000 | 557,000 | 40 | 115 | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-------------|-------------------|--|--|---|---|---|--|---|---|--|
| District. | Subdivision. | Total area of subdivision and district in acres. | Total area estimated to be under cultivation in acres. | Approximate normal area under winter rice in acres. | Approximate area under winter rice last year (1901) in acres. | Estimated area under winter rice this year (1902) in acres. | Taking 100 to represent the normal outturn, how much represented the outturn last year (1901)? | Taking 100 to represent the normal outturn, how much will represent this year's outturn (1902)? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
| Malda .. | Whole district .. | 1,216,000 | 672,800 | 208,500 | 202,700 | 230,000 | 65 | 104 | The decrease in the outturn as compared with the preliminary forecast is due to want of rain in October last. | |
| | Dumka .. | 914,560 | 260,200 | 92,100 | 92,100 | 92,100 | 85 | 110 | The figures have been revised. Owing to heavy rain since the latter part of July, the outturn has been above the average. | |
| | Deochar .. | 610,560 | 234,100 | 46,700 | 46,700 | 46,700 | 65 | 100 | | |
| | Godda .. | 618,880 | 280,500 | 92,000 | 92,000 | 74,600 | 100 | 70 | | |
| | Jamtara .. | 445,440 | 176,100 | 55,800 | 56,000 | 63,000 | 60 | 100 | | |
| Cuttack .. | Pakour .. | 497,120 | 265,400 | 133,000 | 132,000 | 132,000 | 63 | 125 | | |
| | Rajnahal .. | 478,000 | 285,900 | 150,000 | 131,000 | 140,200 | 50 | 100 | | |
| | District Total .. | 3,500,160 | 1,545,900 | 579,600 | 653,800 | 541,600 | 70 | 104 | | |
| | Sadar .. | 2,203,149 | 303,100 | 341,100 | 354,500 | 368,900 | 78 | 90 | The abrupt cessation of rains at the most critical period of the growth and maturity of the crop (from 25th September to 25th October) caused the reduction in the outturn, which would otherwise have been bumper. | |
| | Kendrapara .. | 410,500 | 410,500 | 290,100 | 310,500 | 327,700 | 75 | 100 | | |
| Balasore .. | Jajpur .. | 329,700 | 329,700 | 268,400 | 262,400 | 262,400 | 65 | 80 | | |
| | Banki .. | 37,200 | 37,200 | 28,000 | 28,000 | 28,000 | 75 | 80 | | |
| | District Total .. | 2,503,149 | 1,161,200 | 916,600 | 983,900 | 1,002,000 | 73 | 90 | | |
| | Sadar .. | 739,110 | 465,000 | 246,100 | 331,000 | 355,000 | 65 | 85 | Owing to a prolonged and unseasonable drought in September and October, the crop was seriously affected. Rain was subsequently received in most parts of the district in the latter part of October. But it cannot be expected that a full normal crop will be harvested. | |
| | Bhadrak .. | 965,258 | 464,800 | 300,800 | 300,800 | 300,800 | 80 | 86 | | |
| | District Total .. | 1,334,368 | 576,800 | 646,900 | 631,800 | 635,600 | 72 | 83 | | |

| | | | | | | | | | |
|----------------|--------------------|------------|------------|------------|------------|------------|-----|-----|--|
| Angul ... | Angul ... | 563,840 | 160,000 | 74,800 | 75,000 | 76,000 | 50 | 50 | The low outturn is due to continued drought from the last week of September up to date in Angul. A heavy shower of 3.37 inches in the Khondmals towards the end of October saved the crops to a certain extent. |
| | Khondmals ... | 512,000 | 100,000 | 50,000 | 50,000 | 60,000 | 75 | 75 | |
| | District Total ... | 1,075,840 | 260,000 | 124,800 | 125,000 | 136,000 | 60 | 60 | |
| Puri ... | Sadar ... | 1,592,360 | { | 318,200 | 335,300 | 345,000 | 90 | 90 | |
| | Khurda ... | 1,550,360 | 788,300 | 518,200 | 545,900 | 585,000 | 90 | 90 | The rainfall in October was insufficient. Hence the outturn was below the average. |
| | District Total ... | 3,142,720 | 1,132,000 | 615,200 | 615,000 | 570,200 | 80 | 80 | |
| Hazaribagh ... | Sadar ... | 3,210,880 | 1,132,000 | 615,200 | 390,000 | 292,500 | 65 | 100 | |
| | Giridih ... | 1,352,560 | 571,000 | 322,600 | 390,000 | 292,500 | 65 | 100 | |
| | District Total ... | 4,493,440 | 1,703,000 | 1,007,700 | 1,015,000 | 962,700 | 86 | 88 | Early cessation of rains accounts for the low outturn. |
| Ranchi ... | Whole district ... | 4,309,600 | 1,573,200 | 806,700 | 505,000 | 808,700 | 75 | 86 | |
| Palamanu ... | Whole district ... | 3,130,200 | 687,600 | 277,900 | 250,500 | 230,500 | 50 | 75 | |
| | District Total ... | 7,439,800 | 2,260,800 | 1,084,600 | 755,500 | 1,039,200 | 62 | 80 | |
| Manbhum ... | Sadar ... | 2,140,160 | 1,116,500 | 762,500 | 720,800 | 682,500 | 130 | 105 | The area decreased owing to want of sufficient rain for sowing and transplanting. The want of rain in October has told upon the outturn. |
| | Gobindpur ... | 513,920 | 300,700 | 185,000 | 250,100 | 290,100 | 130 | 120 | |
| | District Total ... | 2,654,080 | 1,417,200 | 947,500 | 970,900 | 972,600 | 130 | 109 | |
| Singbhum ... | Whole district ... | 2,526,080 | 835,800 | 315,000 | 314,000 | 315,000 | 70 | 96 | |
| | District Total ... | 5,180,160 | 2,253,000 | 1,262,500 | 1,284,900 | 1,287,600 | 100 | 102 | The decrease in the expected outturn is due to the deficiency of rainfall. |
| | Grand Total ... | 97,800,988 | 53,800,100 | 29,512,300 | 27,175,400 | 29,377,900 | 74 | 94 | |

APPENDIX II.
Statement of Rainfall from May to November 1902.

| DIVISION AND DISTRICT. | MAY 1902. | | JUNE 1902. | | JULY 1902. | | AUGUST 1902. | | SEPTEMBER 1902. | | OCTOBER 1902. | | NOVEMBER 1902.* | | |
|------------------------|---------------------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|------|
| | Normal average. | Actual rainfall. | Normal average. | Actual rainfall. | Normal average. | Actual rainfall. | Normal average. | Actual rainfall. | Normal average. | Actual rainfall. | Normal average. | Actual rainfall. | Normal average. | Actual rainfall. | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| BARDWAN. | Hurdwan | 5.08 | 4.87 | 10.16 | 6.09 | 12.25 | 10.84 | 11.70 | 7.50 | 8.40 | 8.34 | 3.36 | 1.37 | 0.65 | 0.26 |
| | Birbhum | 4.40 | 4.35 | 11.30 | 4.60 | 13.40 | 12.70 | 11.45 | 12.34 | 10.07 | 15.05 | 3.18 | 1.20 | 0.41 | 0.29 |
| | Bankura | 4.30 | 6.09 | 10.83 | 3.92 | 12.22 | 9.01 | 11.69 | 6.04 | 8.70 | 9.31 | 3.80 | 0.85 | 0.54 | 0.28 |
| | Midnapore | 5.45 | 7.12 | 10.25 | 3.99 | 12.51 | 10.91 | 12.86 | 13.20 | 9.09 | 9.74 | 4.43 | 0.68 | 0.08 | 0.43 |
| | Houghly ... | 5.57 | 7.80 | 10.36 | 7.30 | 12.05 | 11.58 | 12.55 | 9.50 | 8.85 | 9.02 | 4.00 | 1.03 | 0.61 | 0.33 |
| Howrah ... | 5.27 | 8.40 | 10.93 | 4.92 | 11.53 | 15.00 | 11.30 | 11.23 | 9.45 | 5.90 | 3.70 | 1.01 | 0.50 | 0.38 | |
| PREM- DIST. | 24-Parganas | 5.40 | 7.88 | 10.89 | 6.91 | 13.05 | 12.81 | 13.20 | 11.14 | 10.04 | 9.06 | 5.21 | 1.44 | 0.82 | 0.47 |
| | Nadia ... | 6.72 | 8.99 | 9.99 | 7.93 | 10.36 | 8.72 | 10.96 | 8.43 | 8.48 | 0.41 | 4.04 | 2.84 | 0.74 | 0.32 |
| | Murshid- abad. | 5.13 | 7.18 | 10.14 | 6.04 | 10.93 | 14.98 | 10.45 | 13.21 | 9.35 | 14.01 | 3.75 | 2.67 | 0.49 | 0.16 |
| | Jessore ... | 7.13 | 10.31 | 11.60 | 8.03 | 10.44 | 10.47 | 10.67 | 8.34 | 8.45 | 12.32 | 4.45 | 2.53 | 0.88 | 0.16 |
| | Khulna ... | 6.45 | 9.76 | 12.74 | 9.70 | 13.10 | 16.92 | 12.32 | 9.99 | 9.65 | 9.73 | 5.21 | 0.87 | 0.90 | 0.45 |
| RAJSHAH. | Rajshahi | 6.04 | 6.57 | 10.51 | 15.20 | 11.51 | 12.02 | 10.35 | 11.52 | 10.50 | 12.43 | 3.06 | 2.26 | 0.38 | 0.23 |
| | Dinajpur | 6.21 | 7.53 | 13.78 | 12.52 | 10.17 | 21.95 | 12.41 | 15.25 | 13.05 | 18.53 | 3.48 | 2.73 | 0.09 | nil |
| | Jalpaiguri | 14.22 | 13.30 | 20.06 | 28.93 | 33.22 | 32.81 | 28.63 | 30.17 | 23.00 | 43.92 | 6.60 | 2.80 | 0.35 | 0.33 |
| | Darjeeling | 9.05 | 8.18 | 22.59 | 21.76 | 31.91 | 35.66 | 24.04 | 20.42 | 10.20 | 45.90 | 4.10 | 4.00 | 0.32 | 0.41 |
| | Rangpur ... | 10.21 | 13.62 | 17.06 | 15.70 | 14.81 | 14.44 | 12.38 | 14.59 | 14.10 | 20.10 | 4.07 | 4.90 | 0.15 | nil |
| DACCH. | Roga ... | 7.91 | 9.57 | 12.33 | 10.55 | 13.26 | 14.74 | 11.35 | 14.63 | 10.85 | 16.87 | 4.46 | 5.02 | 0.65 | nil |
| | Patna ... | 7.00 | 9.18 | 11.40 | 20.04 | 11.06 | 9.63 | 11.04 | 9.37 | 9.49 | 15.50 | 4.10 | 3.21 | 0.67 | 0.08 |
| | Dacca ... | 9.61 | 13.14 | 12.64 | 19.06 | 12.05 | 12.85 | 12.59 | 12.48 | 9.05 | 12.69 | 4.26 | 1.78 | 1.03 | 0.03 |
| | Mymon- singh. | 11.30 | 13.07 | 17.90 | 19.89 | 16.47 | 21.86 | 14.96 | 16.46 | 12.73 | 11.47 | 5.06 | 3.41 | 0.80 | nil |
| | Faridpur... Backer- ganj. | 8.30 | 11.55 | 12.37 | 16.68 | 11.72 | 13.62 | 11.49 | 11.23 | 8.28 | 11.89 | 4.39 | 1.30 | 0.95 | 0.13 |
| CHITTA- GONG. | ganj. | 8.58 | 14.51 | 17.37 | 25.41 | 17.45 | 29.18 | 16.21 | 14.16 | 11.35 | 16.90 | 6.38 | 4.04 | 1.05 | 0.26 |
| | Tippera ... | 10.21 | 11.92 | 14.58 | 20.57 | 13.30 | 12.01 | 12.78 | 12.12 | 9.40 | 9.58 | 4.30 | 4.24 | 0.94 | 0.04 |
| | Nonkhali | 10.55 | 13.00 | 22.20 | 27.24 | 24.01 | 31.97 | 23.92 | 23.25 | 14.15 | 13.09 | 7.52 | 4.92 | 1.44 | nil |
| | Chittagong | 11.17 | 13.05 | 23.56 | 27.75 | 26.16 | 35.31 | 21.92 | 15.60 | 12.24 | 14.05 | 7.02 | 5.71 | 1.20 | nil |
| | Patna ... | 1.74 | 0.92 | 7.71 | 2.80 | 12.40 | 11.42 | 11.21 | 8.82 | 7.20 | 12.70 | 3.66 | 0.52 | 0.10 | nil |
| PATNA. | Gaya | 1.18 | 0.70 | 6.62 | 2.45 | 12.40 | 14.42 | 11.72 | 6.60 | 6.55 | 11.07 | 2.27 | 0.27 | 0.30 | 0.07 |
| | Shahabad | 0.73 | 0.26 | 6.34 | 2.68 | 12.73 | 16.89 | 11.64 | 6.63 | 6.86 | 10.33 | 2.03 | 0.50 | 0.33 | 0.07 |
| | Saran | 1.55 | 2.00 | 7.01 | 2.50 | 11.77 | 10.57 | 11.00 | 7.20 | 8.10 | 13.07 | 2.67 | 1.70 | 0.18 | 0.01 |
| | Champaran | 2.61 | 4.23 | 9.34 | 5.24 | 13.72 | 18.31 | 12.81 | 12.02 | 9.93 | 13.70 | 3.28 | 1.02 | 0.11 | nil |
| | Muzaffarpur | 2.20 | 1.72 | 7.41 | 4.89 | 12.03 | 12.37 | 11.00 | 9.87 | 8.17 | 12.64 | 2.61 | 1.02 | 0.11 | nil |
| BHOJAL- PUR. | Darbhanga | 2.66 | 3.36 | 7.47 | 5.46 | 12.59 | 13.89 | 12.81 | 10.19 | 10.06 | 10.27 | 2.16 | 2.84 | 0.11 | nil |
| | Monghyr | 2.16 | 1.36 | 7.62 | 4.85 | 13.33 | 11.13 | 11.41 | 6.66 | 9.57 | 11.70 | 2.40 | 1.41 | 0.08 | 0.02 |
| | Bhagalpur | 3.15 | 3.94 | 8.34 | 5.11 | 12.72 | 11.51 | 11.68 | 8.31 | 9.57 | 11.70 | 2.40 | 1.40 | 0.07 | 0.01 |
| | Purnea ... | 5.43 | 6.70 | 12.60 | 9.90 | 18.16 | 17.08 | 14.98 | 13.22 | 15.43 | 17.24 | 2.96 | 1.40 | 0.07 | 0.01 |
| | Maidan ... | 4.54 | 4.28 | 10.11 | 9.53 | 12.91 | 11.48 | 11.07 | 8.43 | 11.54 | 12.00 | 3.50 | 2.43 | 0.52 | 0.01 |
| ORISSA. | Santal ... | 2.75 | 3.04 | 9.70 | 6.30 | 12.68 | 18.21 | 11.66 | 7.88 | 11.10 | 14.50 | 3.15 | 1.47 | 0.28 | 0.11 |
| | Parganas. | | | | | | | | | | | | | | |
| | Cuttack ... | 4.33 | 3.43 | 9.71 | 5.20 | 11.69 | 21.07 | 12.77 | 12.39 | 10.9 | 7.50 | 6.10 | 1.01 | 1.07 | 0.03 |
| | Bhalsore ... | 5.03 | 4.14 | 9.37 | 5.62 | 12.15 | 17.47 | 11.86 | 9.71 | 11.23 | 7.50 | 5.42 | 1.18 | 1.01 | 0.10 |
| | Puri | 2.06 | 2.40 | 8.03 | 6.18 | 10.91 | 19.16 | 12.81 | 15.40 | 9.89 | 6.88 | 7.21 | 1.43 | 1.40 | 0.51 |
| CHOTA- NAGPUR. | Hazaribagh | 1.89 | 1.76 | 8.43 | 3.15 | 14.33 | 14.20 | 12.58 | 7.17 | 8.37 | 13.51 | 3.13 | 0.86 | 0.31 | 0.03 |
| | Ranchi | 1.69 | 1.70 | 9.64 | 2.44 | 14.38 | 16.89 | 13.31 | 10.65 | 8.39 | 10.58 | 2.03 | 0.71 | 0.38 | 0.23 |
| | Palamau | 0.94 | 0.35 | 6.80 | 0.48 | 13.85 | 13.64 | 13.42 | 6.45 | 7.65 | 12.65 | 2.09 | 0.24 | 0.29 | 0.04 |
| | Manbhum | 2.81 | 3.08 | 9.59 | 4.10 | 12.81 | 13.33 | 12.55 | 9.26 | 8.96 | 14.89 | 2.02 | 1.13 | 0.31 | 0.55 |
| | Singhbhum | 3.33 | 5.25 | 10.67 | 4.37 | 13.08 | 20.68 | 14.68 | 7.17 | 8.17 | 9.55 | 2.70 | 0.15 | 0.42 | 0.41 |

* The rainfall figures of November are not complete and are subject to revision.

APPENDIX III.
Abstract statement of estimated Acreage and Outturn of the Winter Rice Crop, 1902.

| Province. | ACREAGE. | | | | | | OUTTURN IN CWT. | | | | | | | |
|-----------|-------------------------|--------------------------|---|--|---|-----------|-----------------|---|--|---|--|--|------------|------------|
| | Of current year's crop. | Of previous year's crop. | Average of five preceding years (viz., 1896 to 1900). | Average of eight preceding years (viz., 1888 to 1900). | Percentage by which column 2 exceeds (+) or falls short (—) of area in— | | | Estimated yield of current year, i.e., of area in column 2. | Yield of previous year, i.e., of area in column 3. | Average of five preceding years (viz., 1896 to 1900). | Average of eight preceding years (viz., 1888 to 1900). | Percentage by which column 9 exceeds (+) or falls short (—) of outturn in— | | |
| | | | | | Column 3. | Column 4. | Column 5. | | | | | Column 10. | Column 11. | Column 12. |
| | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Bengal | 29,307,800 | 27,175,400 | 30,446,100 | 30,607,100 | + 7.85 | — 3.74 | — 4.24 | 908,005,000 | 221,618,200 | 292,025,900 | 288,555,000 | + 37.00 | + 7.65 | + 1.69 |

ANNUAL ADMINISTRATION REPORT OF THE ZOOLOGICAL
GARDENS CALCUTTA, FOR THE YEAR 1901-1902.

NOTIFICATION.

No. 4601 Mis.—The 15th December 1902.—The Annual Administration Report of the Zoological Gardens, Calcutta, for the year 1901-1902 and Government letter No. 4602, dated 15th December 1902, acknowledging receipt of the report, are published for general information.

W. C. MACPHERSON,

Offg. Secretary to the Government of Bengal.

The length of the report with its appendices should not in future exceed four pages in print.

REPORT OF THE HONORARY COMMITTEE

FOR THE MANAGEMENT OF THE

ZOOLOGICAL GARDEN, CALCUTTA,

FOR THE YEAR

1901-1902.

THE Honorary Committee have the honour to submit their report for the year ending 31st March 1902.

2. The acknowledgments of the Committee are due to the following gentlemen for contributing the amounts shown against their names:—

| | Rs. |
|-----------------------------------|-------|
| RAI BAHADUR CAMALESHWARI PRASAD | |
| SINGH OF MONGHYR ... | 4,000 |
| BABU RAMANATH GHOSE, ZAMINDAR ... | 1,000 |
| SYUD HOSSAIN HAIDER, ZAMINDAR OF | |
| COMILLA ... | 1,000 |

also to the Burdwan Raj Estates for a grant of Rs. 3,600 for repairing the Burdwan House in the Garden; and lastly to the Maharaja Surya Kanta Acharya of Mymensingh for the very handsome donation of Rs. 10,000 for construction of an open air enclosure for the larger carnivorous animals behind the Burdwan House.

FINANCE.

3. The donations and subscriptions amounted to Rs. 20,691, against Rs. 17,588 in the previous year. The number of visitors, which, in the previous year, had been 156,061, was 182,310, without taking into account the number of students from different schools, members of some charitable institutions, and children under age, who were admitted free of charge.

The total entrance receipts were Rs. 14,242-4, against Rs. 12,145-8 in the previous year.

The Society of St. Vincent de Paul held their Annual Fancy Fair in the Garden on the 1st and 2nd January 1902, as usual, and paid to the Committee Rs. 1,480, being 25 per cent. of the receipts collected at the gate.

The expenditure under the head "Establishment" was Rs. 13,041-14-1, against Rs. 13,384-11-3.

The charges for feeding the animals were Rs. 14,372-3-6, against Rs. 13,116-5-6. The excess was due to the fluctuating rates at which food-grains were sold during the year, and to cost of supplying fresh meat for some sick and delicate

animals, and also to an increase in the number of certain animals.

Rupees 2,346-2 and Rs. 1,379-4 were respectively expended on account of purchase and transport of animals, against Rs. 2,987-9 and Rs. 384-12-3, respectively, in the previous year.

Rupees 3,590-9-3 were spent on account of repairing the Garden roads, against Rs. 1,145-3.

Rupees 15,059-4-3 were spent in connection with repairing some of the houses and enclosures of the Garden, which were in a very bad condition, against Rs. 9,083-6-3, in the previous year.

Rupees 15,493-14-3 were spent under the head "Original construction" on account of remodelling some of the houses.

Rupees 4,213-10-9 were spent under the head "Garden construction."

4. The following list contains the names of all donors who presented various specimens of animals to the Garden during the year:—

- E. W. HAFER, Esq., F.Z.S., 2 Malacca doves, 1 parakeet, 1 munnias.
 BABU SATISH CHANDRA CHATTERJEE, 1 parakeet.
 F. G. CLARKE, Esq., 1 Barn owl.
 LT.-COL. SIR R. O. TEMPLE, BART., C.I.E., 13 Andaman mynas, 17 hanging parakeets, 6 pigeons, 3 banded rails, 2 fairy blue birds.
 BABU SURENDRA NATH MUNDLE, fishing cat.
 T. H. BANERTZ, Esq., 1 Sambur deer.
 A. M. ROSS, Esq., 2 Leopard cubs.
 FRANK FINN, Esq., F.Z.S., 2 water hens, 14 Liothrix, 10 Java sparrows, 3 whistling teals, 2 gulls.
 THE HON'BLE MR. JUSTICE SALE, 2 Guinea pigs.
 C. WILLARD, Esq., 1 purple coot.
 S. G. PLATT, Esq., 1 fishing cat.
 GEO. E. HARDIE, Esq., 1 Slow Loris.
 T. E. EASTON, Esq., 1 crocodile.
 HIS GRACE THE ARCHBISHOP GOETHALS, S.J., 2 Saras cranes, 1 Demoiselle crane.
 C. F. MARRIMAN, Esq., 1 Sambur deer.
 C. V. JOAKIM, Esq., 1 English cat.
 L. T. B. LUCAS, Esq., 3 Sambur deer.
 M. C. PETTER, Esq., 1 Malayan bear cub.
 F. N. SCHILLER, Esq., 1 Leopard cub.
 RAJA SURAPRATAP MAHENDRA BAHADUR OF DHENKANAL, 1 Tiger cub.
 RAJA KISHORE CHANDRA BIROBAR HARI CHANDRA OF TALCHER, 1 Leopard.
 RAM CHANDRA DAS, 1 banded krait.
 M. MACKENZIE, Esq., 15 cobras, 10 Sand snakes, 1 Dipsas, 2 Kraits, 1 Rat snake, 1 porcupine, 10 ducks, 1 owl, 2 fishing-eagles, and 27 rats of different kinds.
 THEODORE C. EVANS, Esq., 1 carpet snake, 1 green lizard.
 THEODORE WILLMORE, I.M.S., 1 Sand snake.
 G. MCCREA, Esq., 1 parakeet, 1 cobra.
 CAPT. H. J. WALTON, I.M.S., 9 Finches, 4 Buntings, 2 Redpalls.
 MAJOR A. R. S. ANDERSON, I.M.S., 6 Glossy calornis, 3 Andaman Barn owls, 1 Hawk owl, 9 Andaman lizards, 3 snakes.
 MAJOR A. W. ALCOCK, I.M.S., 1 Young Palm civet.
 DR. H. C. BANERJEE, 1 Young cobra.
 BABU SRINATH BANERJI, 1 Rhesus monkey.
 RAI THAKURAI GOBIND PRASAD SINGH BAHADUR, 1 Tiger cub, 3 Sambur deer.
 MISS G. M. SHILLINGFORD, 1 fishing cat.
 H. H. THE SULTAN OF JOHORE, 2 Tigers.
 W. BURKE, Esq., 1 spotted owlet.
 BABU MILAN CHANDRA BHATTACHARYA, 1 Hooleek.
 MAJOR J. SHAKESPEAR, 1 Binturong.
 J. C. FLOYD, Esq., 1 Nilgai.

S. B. UADY, Esq., 1 duck (without web).
 Mrs. JUNG, 1 Paradoxure.
 A. YASUFF ALI, Esq., I.C.S., 1 Leopard.
 E. READ, Esq., 1 Python.
 BABU BHUBAN MOHAN DASS, 1 barking deer.
 THE HON'BLE MADHU SUDAN DASS, 1 Leopard.
 HER EXCELLENCY LADY CURZON, 2 Leopard cats.
 G. A. TWERDY, Esq., I.C.S., 1 Hog deer.
 MAHARAJA OF KEONJHUR, 1 young elephant.
 Miss MELL, 1 palm civet.
 MAJOR E. H. BROWN, I.M.S., 1 cobra, 8 guinea pigs.
 A. WRIGHT, Esq., 1 flying squirrel.
 Miss WILD, 1 Leopard cat.
 W. B. BUCKNILL, Esq., 1 Sand boa.
 A. S. BUCKLE, Esq., 1 Clouded Leopard.
 Mrs. RODOGANACHI, 2 Himalayan bears.
 M. L. OAKES, Esq., 1 Nilgai, 1 Sambur deer, 1 Hog deer,
 4 cobras, 2 Chakar partridges, 2 Chaus cats.
 D. O'BRIEN, Esq., 1 snake-eating cobra.
 B. A. MARTIN, Esq., 1 Leopard.
 BABU GOPALJI PATHAK, 1 Long-tailed macaque.
 Mrs. SALE, 9 Guinea pigs, 1 white dove.
 Mrs. HUMPHRIES, 1 black buck.
 MAJOR MOSSE, XX. BO. I., 1 black buck.
 HIS HIGHNESS SRI RAJA UDAI RAJ SINGH SAHEB BAHADUR OF
 KASHIPUR, 2 Tigers.
 J. STEPHENS, Esq., 1 Langur monkey, 5 white doves.
 T. MACKINNON, Esq., 2 Wolf cubs.
 P. K. MAZUMDAR, Esq., 1 Leopard cub.
 HAJI MAHAMMUD MUSTAFA KHAN, 2 Palm squirrels.
 F. A. MÖLLER, Esq., 11 Hill snakes.

5. The following animals were born in the Garden:—

2 spotted deer, 1 Rhesus monkey, 1 sambur deer, 1
 Banteng calf, 3 Andaman pigs, 1 scarlet ibis, 3 purple
 coots, and 1 crested pigeon

6. The following comparative tables will show how the
 various collection of animals in the Garden stood during the
 last four years:—

| Year. | Mammals. | Birds. | Reptiles. |
|-----------|----------|--------|-----------|
| 1898-99 | ... 447 | 591 | 157 |
| 1899-1900 | ... 449 | 752 | 187 |
| 1900-1901 | ... 462 | 905 | 218 |
| 1901-1902 | ... 490 | 914 | 240 |

7. The following table will show additions to the collec-
 tion of animals in each of the last four years:—

| Year. | Mammals. | Birds. | Reptiles. |
|-----------|----------|--------|-----------|
| 1898-99 | ... 103 | 258 | 69 |
| 1899-1900 | ... 78 | 299 | 91 |
| 1900-1901 | ... 112 | 409 | 102 |
| 1901-1902 | ... 132 | 250 | 105 |

APPENDIX A.

Statement showing the visitors and receipts during the year 1901-1902.

| SUNDAYS. | | | | | | WEEK DAYS. | | TOTALS. | |
|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------|-------------------------------|---------------------------|--------------------|
| Number of visitors at 1 anna. | Amount of receipts at 1 anna. | Number of visitors at 4 annas. | Amount of receipts at 4 annas. | Number of visitors at 1 rupee. | Amount of receipts at 1 rupee. | Number of visitors at 1 anna. | Amount of receipts at 1 anna. | Total number of visitors. | Total receipts. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11,979 | Rs. A. P. 749 1 0 | 5,851 | Rs. A. 1,613 0 | 1,957 | Rs. A. 1,957 0 | 163,123 | Rs. A. 10,823 3 | 169,310 | Rs. A. 14,946 4 |

APPENDIX B.

Comparative Statement of receipts for 1900-1901 and 1901-1902.

| | RECEIPTS FOR— | |
|------------------------------------|---------------|-------------|
| | 1900-1901. | 1901-1902. |
| 1 | 2 | 3 |
| | Rs. A. P. | Rs. A. P. |
| Opening balance | 6,288 8 1 | 5,607 6 11 |
| Interest | 163 8 4 | 163 8 4 |
| Donations and subscriptions | 17,588 0 0 | 20,691 0 0 |
| Entrance receipts | 12,145 8 0 | 14,242 4 0 |
| Rents | 2,400 0 0 | 2,000 0 0 |
| Carriages | 472 0 0 | 621 0 0 |
| Fishing | 256 0 0 | 193 0 0 |
| Miscellaneous | 2,578 14 3 | 3,929 7 2 |
| Government contribution | 20,000 0 0 | *30,500 0 0 |
| | 61,892 1 8 | 77,247 5 5 |

(1) Rs. 20,000 on account of the annual grant.
(2) Rs. 10,000 for special grant on account of repairing houses and improving the garden.
(3) Rs. 500 for cleaning the Garden tanks.

APPENDIX C.

Comparative statement of expenditure in 1900-1901 and 1901-1902.

| | 1900-1901. | 1901-1902. |
|---|-------------|-------------|
| 1 | 2 | 3 |
| | Rs. A. P. | Rs. A. P. |
| Establishment | 13,384 11 3 | 13,041 14 1 |
| Food of animals | 13,116 5 6 | 14,372 3 6 |
| Purchase of animals | 2,987 9 0 | 2,346 2 0 |
| Transport of ditto | 384 12 3 | 1,379 4 0 |
| Contingencies | 251 2 3 | 221 5 0 |
| Miscellaneous contingencies | 2,392 13 6 | 2,472 8 4 |
| Repairs of roads | 1,145 8 0 | 3,590 9 3 |
| Do. of buildings | 9,083 6 3 | 15,069 4 3 |
| Building (original construction) | 11,521 0 0 | 15,498 14 3 |
| General construction | 379 4 6 | 170 1 0 |
| Garden ditto | 1,280 10 3 | 4,218 10 2 |
| Tools and plant | 274 8 0 | 99 11 2 |
| | 56,201 0 9 | 72,460 8 2 |
| Closing balance | 5,607 6 11 | 4,671 14 3 |
| | 61,808 7 8 | 77,132 6 5 |

ZOOLOGICAL GARDEN, }
28th Nov. 1902.

R. H. WHITWELL, M.B., LT.-COL., I.M.S.,
for Honorary Secretary.

No. 4602, dated Calcutta, the 15th December 1902.

From—W. O. MACPHERSON, Esq., Offg. Secy. to the Govt. of Bengal, Revenue Dept.,
To—The Honorary Secretary, Zoological Gardens, Calcutta.

I AM directed to acknowledge the receipt of the Report for the year 1901-1902 of the Honorary Committee for the Management of the Zoological Gardens, Calcutta, submitted with your letter No. 373, dated the 29th November 1902, and to convey the thanks of the Acting Lieutenant-Governor to the Committee for their management of the Gardens.

2. Mr. Bourdillon also notices with pleasure the liberal donations of Rs. 10,000, Rs. 4,000 and Rs. 3,600 made to the Gardens by Maharaja Surya Kanta Acharya of Mymensingh, Rai Bahadur Camaleshwari Prasad Singh of Monghyr, and the Burdwan Raj Estate, respectively.

3. I am to say that there appear to be some small discrepancies of figures in Appendix A to the Report, and am to suggest that in future reports such discrepancies may be explained in a footnote to the table.

FINAL FORECAST OF THE BHADOI CROPS OF
BENGAL, 1902.

The following Note is published for general information.

W. C. MACPHERSON,
Offg. Secy. to the Govt. of Bengal.

The 10th December 1902.

DEPARTMENT OF LAND RECORDS AND AGRICULTURE, BENGAL.

Final Forecast of the Bhadoi Crops of Bengal, 1902.

Explanatory—This note furnishes estimates of the area and outturn of all descriptions of *bhadoi* crops, except jute, indigo, cotton and *bhadoi til*, which form the chief *bhadoi* non-food crops of the Province. Separate forecasts of jute, indigo and cotton are issued by this Department, and *bhadoi til* is included in the report on oil-seed crops. This report therefore deals mainly with the *bhadoi* food-crops, of which the most important are *bhadoi* paddy, Indian-corn and millets. These three together make up more than four-fifths of the total area under all the *bhadoi* food-crops. *Bhadoi* paddy is chiefly grown in Bengal and Orissa, and occupies 60 per cent. of the total *bhadoi* food-crop area of the Province. Maize and millets predominate in Bihar and occupy 26 per cent. of this area.

The character of the season.—The rainfall in March and April exceeded the normal almost throughout the Province, and in May also there was fair rain everywhere, except in a few districts of Bihar and Chota Nagpur. The monsoon broke late in June, and the fall in that month was seriously in defect in the Patna and Chota Nagpur Divisions; while, on the other hand, in North and Eastern Bengal, it was excessive, thus aggravating the injury caused by the abnormally heavy ante-monsoon showers. July was a seasonable month, but in August the fall was again deficient, except in North and East Bengal, while floods at the end of the month caused much damage in the Muzaffarpur and Darbhanga districts. In the following month, however, there was copious and general rain in Bihar and Chota Nagpur, and in North Bengal the fall was greatly above the normal, while elsewhere it was, on the whole, slightly in defect. October was abnormally dry almost everywhere and November has been literally rainless, and, on the whole, the season has not been quite favourable to the *bhadoi* crops.

Area sown.—Excluding the areas cultivated with jute, indigo, cotton and *bhadoi til*, the normal area under the different *bhadoi* crops in this Province amounts, according to the

district returns which are summarised in Appendix I, to 13,007,100 acres, against 12,978,000 acres reported last year. The increase is due to the revised estimates submitted by the Deputy Commissioner of Ranchi after careful enquiry and by the District Officers of Darbhanga and the Sonthal Parganas in the light of the recent survey figures. The area actually sown this year with *bhadoi* crops is reported to be 12,559,700 acres, as compared with 12,659,900 acres cultivated last year. The area planted this year with *bhadoi* food-crops is estimated at 12,075,300 acres, against 12,181,300 acres sown last year.

Character of the crop.—It will be seen from Appendix I that only twelve—(Birbhum, 24-Parganas, Rajshahi, Darjeeling, Bogra, Dacca, Champaran, Malda, Balasore, Hazaribagh, Manbhum, and Singhbhum) out of the 45 districts in the Province, report a crop of 100 per cent. or over; in ten districts—(Nadia, Khulna, Dinajpur, Chittagong, Saran, Purnea, Sonthal Parganas, Cuttack, Puri and Ranchi) the outturn is estimated at between 90 and 99 per cent.; in nine others, the estimate varies between 80 and 89 per cent., while in the remaining 14, it varies between 59 and 79 per cent. Since the issue of the preliminary forecast in September last, prospects have improved in 11 districts; have remained unchanged in 23; and have deteriorated in 11. According to the estimates of the District Officers, the total outturn for the Province as a whole, of the various *bhadoi* crops dealt with in this forecast, will amount to only 88 per cent. of a normal crop, against 90 per cent., as finally estimated by me last year. In the first forecast of these crops, issued in September last, I anticipated a 90 per cent. crop for the entire Province, and I see no reason to change that estimate.

Gross outturn.—Except in the case of *bhadoi* paddy, it is not possible to estimate the outturn of these crops. Taking 88 per cent. as the probable outturn of the *bhadoi* paddy this year, the gross outturn of cleaned *bhadoi* rice may be estimated at 47,209,700 cwts., as compared with 47,499,700 cwts. of the past year.

C. G. H. ALLEN,

Offg. Director of the Dept. of Land Records
and Agriculture, Bengal.

CALCUTTA,

The 5th December 1902.

APPENDIX I.
Final Report on the Bhadoi crops of Bengal, 1902.

| District. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-----------|-----|----------------------------------|--|--|--|--|--|--|---|---|--|
| | | Total area of district in acres. | Total area in district estimated to be under cultivation in acres. | Names of bhadoi crops. | Approximate normal area under each specified bhadoi crop in acres. | Approximate area last year (1901) under each specified bhadoi crop in acres. | Estimated area this year (1902) under each specified bhadoi crop in acres. | Taking 100 to represent the normal outturn, how much represented the outturn last year (1901)? | Taking 100 to represent the normal outturn, how much will represent this year's outturn (1902)? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
| Burdwan | ... | 1,725,000 | 1,584,900 | Bhadoi paddy ... Indian-corn (maize) ... Other bhadoi cereals and bhadoi pulses. Other bhadoi food-crops (e.g., vegetables). Other bhadoi non-food-crops ... Total | 173,700 3,000 8,100 2,800 10,100 197,700 | 162,000 3,000 6,000 2,000 10,100 183,100 | 163,100 3,000 6,100 2,000 10,100 184,100 | 79 100 94 83 95 81 | 71 100 99 66 86 73 | | |
| Birbhum | ... | 1,121,720 | 776,300 | Bhadoi paddy ... Indian-corn (maize) ... Other bhadoi food-crops (e.g., vegetables). Other bhadoi non-food-crops ... Total | 144,100 2,000 1,400 2,800 150,200 | 110,000 2,000 1,500 2,500 116,000 | 144,000 2,000 1,400 2,600 149,900 | 100 100 100 100 100 | 100 100 100 100 100 | | |
| Bankura | ... | 1,677,440 | 643,500 | Bhadoi paddy ... Bajra ... Mandua (marua or ragi) ... Indian-corn (maize) ... Other bhadoi cereals and bhadoi pulses. Other bhadoi food-crops (e.g., vegetables). Other bhadoi non-food-crops ... Total | 21,900 1,800 1,100 3,600 8,400 700 1,200 37,700 | 18,000 600 800 2,800 8,200 800 1,500 32,900 | 19,500 500 500 2,700 7,400 1,800 1,200 36,500 | 90 100 100 100 100 90 90 94 | 50 90 75 90 90 100 100 72 | Owing to deficiency of rainfall, the out-turn of bhadoi paddy was shorter than what was reported in the preliminary forecast. | |

| District. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | Remarks by the Department of Land Records and Agriculture, Bengal. | Remarks by District Officers. |
|-------------|---|----------------------------------|---|---|--|--|---|---|--|---|---|--|-------------------------------|
| | | Total area of district in acres. | Total area in district cultivated to be under cultivation in acres. | | Names of <i>bhados</i> crops. | Approximate normal area under each specified <i>bhados</i> crop in acres. | Approximate area last year (1901) under each specified <i>bhados</i> crop in acres. | Estimated area this year (1902) under each specified <i>bhados</i> crop in acres. | Taking 100 to represent the normal outturn, how much represented the outturn last year (1901)? | Taking 100 to represent the normal outturn, how much will represent this year's outturn (1902)? | | | |
| Midnapore | | 3,319,040 | 2,190,000 | | <i>Bhados</i> paddy Bajra Maize (<i>maize</i> or <i>ragi</i>) Indian corn (<i>maize</i>) Other <i>bhados</i> cereals and <i>bhados</i> pulses Other <i>bhados</i> food-crops (<i>e.g.</i> , vegetables), Other <i>bhados</i> non-food-crops Total | 108,900 6,100 2,000 21,300 48,700 23,300 54,300 292,500 | 101,000 5,900 1,900 21,100 47,400 20,000 51,300 248,600 | 102,000 5,900 1,900 21,100 47,700 20,500 51,600 250,700 | 94 80 80 89 79 79 76 85 | 95 80 80 90 80 80 76 86 | The outturn is below the normal on account of the scanty rainfall in June and September. | | |
| Hooghly | | 1,097,300 | 688,900 | | <i>Bhados</i> paddy Indian corn (<i>maize</i>) Other <i>bhados</i> cereals and <i>bhados</i> pulses Other <i>bhados</i> food-crops (<i>e.g.</i> , vegetables), Other <i>bhados</i> non-food-crops Total | 46,000 100 2,600 3,900 16,700 68,300 | 43,000 100 2,000 4,500 6,900 56,600 | 42,400 100 2,400 4,300 6,900 56,100 | 77 100 67 64 74 75 | 83 99 73 88 77 84 | Sufficient rainfall in places improved the outturn of the crop. | | |
| 24 Parganas | | 3,674,861 | 1,064,300 | | <i>Bhados</i> paddy Other <i>bhados</i> cereals and <i>bhados</i> pulses Other <i>bhados</i> food-crops (<i>e.g.</i> , vegetables), Other <i>bhados</i> non-food-crops Total | 108,700 3,600 5,100 900 117,000 | 103,000 2,400 4,300 100 109,800 | 84,200 2,900 4,700 200 92,000 | 110 110 110 110 110 | 111 110 98 100 110 | Owing to the cessation of rain from the close of September last the outturn of vegetable is expected to be poor in the Diamond Harbour subdivision. | | |

| | | | | | | | | | |
|-------------|-----------|-----------|---|---------|---------|---------|-----|-----|---|
| Nadia | 1,737,433 | 680,600 | Bhadai paddy | 333,300 | 333,300 | 601,000 | 75 | 90 | *The Subdivisional Officer of Kuthia has submitted revised figures on enquiry. The increase in the area is due to seasonable rainfall. The decrease in the area sown under "Indian corn" is due to the increased cultivation of bhadoi paddy. |
| | | | Mandua (marua or ragi) | 800 | 800 | 800 | 60 | 90 | |
| | | | Indian-corn (maize) | 800 | 800 | 800 | 75 | 90 | |
| | | | Other bhadoi cereals and bhadoi pulses. | 11,700 | 7,700 | 14,900 | 61 | 90 | |
| | | | Other bhadoi food-crops (e.g., vegetables). | 17,700 | 14,600 | *13,400 | 76 | 103 | |
| Murshidabad | 1,373,440 | 965,500 | Other bhadoi non-food-crops | 25,000 | 25,300 | 25,300 | 75 | 75 | Low estimate is owing to want of good rains in the latter part of the season. |
| | | | Total | 354,400 | 451,700 | 455,000 | 76 | 91 | |
| | | | Bhadai paddy | 259,700 | 216,700 | 316,600 | 68 | 71 | |
| | | | Indian-corn (maize) | 200 | 300 | 400 | 69 | 75 | |
| | | | Other bhadoi cereals and bhadoi pulses. | 3,300 | 3,500 | 3,500 | 60 | 60 | |
| Jessore | 1,873,000 | 1,353,000 | Other bhadoi food-crops (e.g., vegetables). | 8,600 | 8,300 | 8,600 | 63 | 73 | Since the submission of the first forecast nothing has happened to alter the estimate made therein. |
| | | | Other bhadoi non-food-crops | 73,500 | 73,800 | 71,800 | 63 | 63 | |
| | | | Total | 313,900 | 309,600 | 300,900 | 73 | 74 | |
| | | | Bhadai paddy | 399,700 | 362,600 | 358,700 | 80 | 71 | |
| | | | Other bhadoi cereals and bhadoi pulses. | 16,600 | 12,000 | 12,100 | 43 | 46 | |
| Khulna | 3,103,943 | 870,800 | Other bhadoi food-crops (e.g., vegetables). | 25,800 | 24,700 | 24,000 | 81 | 80 | Since the submission of the first forecast nothing has happened to alter the estimate made therein. |
| | | | Other bhadoi non-food-crops | 9,200 | ... | 8,200 | ... | 85 | |
| | | | Total | 451,300 | 399,300 | 404,000 | 79 | 71 | |
| | | | Bhadai paddy | 56,400 | 63,900 | 63,500 | 75 | 96 | |
| | | | Other bhadoi cereals and bhadoi pulses. | 3,200 | 3,300 | 3,200 | 78 | 75 | |
| Rajshahi | 1,668,040 | 1,308,100 | Other bhadoi food-crops (e.g., vegetables). | 3,700 | 5,000 | 4,100 | 100 | 96 | Since the submission of the first forecast nothing has happened to alter the estimate made therein. |
| | | | Total | 63,300 | 72,100 | 70,800 | 77 | 97 | |
| | | | Bhadai paddy | 313,700 | 312,700 | 315,000 | 80 | 110 | |
| | | | Indian-corn (maize) | 1,100 | 1,100 | 1,000 | 80 | 110 | |
| | | | Other bhadoi food-crops (e.g., vegetables). | 2,600 | 2,400 | 2,400 | 90 | 110 | |
| Total | ... | ... | Other bhadoi non-food-crops | 8,300 | 8,000 | 8,400 | 90 | 126 | |
| | | | Total | 354,100 | 354,300 | 354,400 | 80 | 110 | |

| District. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|------------|----|----------------------------------|--|---|---|---|---|--|--|---|--|
| | | Total area of district in acres. | Total area in district estimated to be under cultivation in acres. | Names of <i>bhadai</i> crops. | Approximate normal area under each specified <i>bhadai</i> crop in acres. | Approximate area last year (1901) under each specified <i>bhadai</i> crop in acres. | Estimated area this year (1902) under each specified <i>bhadai</i> crop in acres. | Taking 100 to represent the normal output, how much will represent the output last year (1901) ? | Taking 100 to represent the normal output, how much will represent this year's output (1902) ? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
| Dinajpur | .. | 2,525,000 | 1,097,000 | <i>Bhadai</i> paddy .. Jowar .. Maize .. Indian-corn (maize) .. Other <i>bhadai</i> food-crops (<i>e.g.</i> , vegetables). | 130,700 7,000 7,000 1,000 600 | 135,000 6,000 8,000 1,000 400 | 130,000 5,000 8,000 1,000 500 | 80 90 90 90 80 | 95 95 95 100 100 | Owing to excessive rains in September, the output fell short of the estimate made in the preliminary forecast. | |
| Jalpaiguri | .. | 1,804,000 | 925,000 | <i>Bhadai</i> paddy .. Indian-corn (maize) .. Other <i>bhadai</i> cereals and <i>bhadai</i> pulses .. Other <i>bhadai</i> food-crops (<i>e.g.</i> , vegetables). | 180,800 3,700 7,100 11,200 | 180,400 2,100 4,300 4,500 | 179,700 2,100 4,400 6,700 | 85 93 94 75 | 75 90 91 75 | The figures in columns 5 and 6 have been revised. The decrease in the area and the output is due to early and excessive rainfall during the year. | |
| Burjooling | .. | 744,000 | 146,200 | <i>Bhadai</i> paddy .. Maize (<i>marua</i> or <i>ragi</i>) .. Indian-corn (maize) .. Other <i>bhadai</i> cereals and <i>bhadai</i> pulses .. Other <i>bhadai</i> food-crops (<i>e.g.</i> , vegetables). | 7,000 7,700 33,200 600 4,500 | 6,300 6,800 21,700 600 4,500 | 7,500 6,800 21,700 600 4,500 | 94 100 100 100 100 | (a)117 (a)108 100 (a)117 (a)117 | (a) Due to seasonable rainfall. | |

| | | | | | | | | | |
|------------|-----------|-----------|---|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------|------------------------|--|
| Bangpur | 2,325,030 | 1,002,700 | Bhadol paddy Other crops (maize) Other bhadosi cereals and bhadosi pulses. Other bhadosi food-crops (e.g., vegetables). | 223,500 300 70,900 44,000 | 273,000 300 76,100 38,300 | 273,000 300 76,100 38,300 | 101 100 100 94 | 81 100 100 79 | The short outturn is due to excessive rainfall. |
| | | | Total | 327,600 | 323,100 | 323,100 | 99 | 94 | |
| Bogra | 889,760 | 660,000 | Bhadol paddy Other bhadosi non-food-crops | 73,700 4,000 | 93,000 8,000 | 93,000 8,000 | 95 95 | 100 100 | The increase in area is due to seasonable rainfall this year. |
| | | | Total | 77,700 | 100,000 | 103,000 | 95 | 100 | |
| Palna | 3,178,940 | 833,500 | Bhadol paddy Other bhadosi cereals and bhadosi pulses. Other bhadosi food-crops (e.g., vegetables). Other bhadosi non-food-crops | 185,100 39,400 103,500 3,000 | 138,600 45,000 100,100 2,700 | 151,300 45,000 100,100 2,700 | 100 100 80 80 | 75 100 80 90 | Paddy which is the principal crop under the head "Other bhadosi food-crops" is grown extensively in the chur and other lands. The other crops under this head are cucumber, pumpkin, &c. |
| | | | Total | 277,000 | 256,700 | 279,700 | 93 | 81 | |
| Dacca | 1,750,420 | 1,313,500 | Bhadol paddy Other bhadosi cereals and bhadosi pulses. Other bhadosi food-crops (e.g., vegetables). | 247,100 1,000 40,000 | 241,500 400 37,000 | 250,500 300 37,400 | 95 100 94 | 100 70 110 | |
| | | | Total | 288,100 | 279,500 | 288,300 | 95 | 101 | |
| Mymensingh | 4,023,420 | 2,405,700 | Bhadol paddy Other bhadosi food-crops (e.g., vegetables). | 390,000 44,500 | 333,300 34,000 | 393,300 34,500 | 100 80 | 76 60 | Outturn below normal is due to excessive rainfall and flood. |
| | | | Total | 402,500 | 367,300 | 400,700 | 98 | 75 | |

| District. | Total area of district in acres. | Total area in district estimated to be under cultivation in acres. | Names of bhadoi crops. | Approximate normal area under each specified bhadoi crop in acres. | Approximate area last year (1901) under each specified bhadoi crop in acres. | Estimated area this year (1902) under each specified bhadoi crop in acres. | Taking 100 to represent the normal outturn, how much will represent the outturn last year (1901)? | Taking 100 to represent the normal outturn, how much will represent this year's outturn (1902)? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
|------------|----------------------------------|--|--|--|--|--|---|---|---|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Fardpur | 1,460,940 | 1,132,600 | Bhadoi paddy Other bhadoi cereals and bhadoi pulses Other bhadoi food-crops (e.g., vegetables). Other bhadoi non-food-crops | 365,000 100 500 2,500 | 345,000 100 500 2,500 | 350,000 100 500 2,500 | 100 100 100 100 | 75 75 75 75 | | |
| | | | Total | 368,100 | 348,100 | 353,100 | 100 | 75 | | |
| Backerganj | 2,326,320 | 1,400,000 | Bhadoi paddy | 350,000 | 375,000 | 260,000 | 130 | 87 | The normal area could not be sown on account of excessive rain at sowing time which was prejudicial to the outturn. Considering the smaller area sown, the net outturn of rice will be little more than half that of last year. | |
| | | | Total | 350,000 | 375,000 | 260,000 | 130 | 87 | | |
| Tippah | 1,660,360 | 1,173,000 | Bhadoi paddy Other bhadoi cereals and bhadoi pulses Other bhadoi food-crops (e.g., vegetables). Other bhadoi non-food-crops | 261,200 2,100 2,700 17,000 | 260,000 2,000 2,700 17,000 | 265,000 1,900 2,700 17,000 | 88 88 89 100 | 65 60 59 60 | The increase in the area shown is due to the failure of the jute crop and the decrease in the outturn is due to unseasonable and excessive rainfall. | |
| | | | Total | 273,000 | 272,000 | 269,600 | 89 | 65 | | |

| | | | | | | | | | |
|------------|-----------|-----------|---|---------|---------|---------|-----|-----|---|
| Noakhali | 1,082,870 | 754,800 | Bhadol paddy | 218,200 | 213,200 | 177,800 | 100 | 80 | The decrease in the area under cultivation (column 7), and estimated outturn (column 9) is due to excessive rainfall at the time of sowing. The decrease in the figures in column 3 is due to revision of estimates. |
| | | | Other bhadol cereals and bhadol pulses. | 2,600 | 2,600 | 2,600 | 80 | 80 | |
| | | | Other bhadol food-crops (e.g., vegetables). | 200 | 200 | 200 | 80 | 80 | |
| | | | Total | 221,000 | 215,000 | 200,000 | 100 | 80 | |
| Chattogram | 1,391,815 | 559,800 | Bhadol paddy | 92,300 | 70,000 | 70,000 | 100 | 90 | The figures in columns 5, 6 and 7 have been revised. Insufficient rainfall accounts for the decrease in the outturn. |
| | | | Other bhadol cereals and bhadol pulses. | 3,000 | 2,000 | 2,000 | 100 | 90 | |
| | | | Other bhadol food-crops (e.g., vegetables). | 18,800 | 10,000 | 10,000 | 100 | 90 | |
| | | | Total | 114,100 | 82,000 | 82,000 | 100 | 90 | |
| Patna | 1,332,560 | 1,092,100 | Bhadol paddy | 14,900 | 6,400 | 14,100 | 61 | 67 | The full normal area could not be cultivated for want of timely and sufficient rains. |
| | | | Jowar | 15,500 | 8,000 | 15,400 | 50 | 78 | |
| | | | Mandua (marua or ragi) | 63,800 | 89,500 | 63,100 | 94 | 49 | |
| | | | Indian-corn (maize) | 114,000 | 102,600 | 117,300 | 73 | 60 | |
| Gaya | 3,015,080 | 2,207,200 | Other bhadol cereals and bhadol pulses. | 17,400 | 4,100 | 16,200 | 73 | 63 | The full normal area could not be cultivated for want of timely and sufficient rains. |
| | | | Other bhadol food-crops (e.g., vegetables). | 8,800 | 16,000 | 7,800 | 85 | 77 | |
| | | | Other bhadol non-food-crops | 5,800 | 3,500 | 5,700 | 71 | 61 | |
| | | | Total | 239,500 | 239,100 | 240,200 | 81 | 69 | |
| Gaya | 3,015,080 | 2,207,200 | Bhadol paddy | 89,000 | 17,400 | 17,000 | 80 | 70 | The full normal area could not be cultivated for want of timely and sufficient rains. |
| | | | Jowar | 70,000 | 18,500 | 18,500 | 90 | 100 | |
| | | | Mandua (marua or ragi) | 77,200 | 73,300 | 71,300 | 66 | 75 | |
| | | | Indian-corn (maize) | 63,200 | 61,400 | 59,500 | 78 | 75 | |
| Gaya | 3,015,080 | 2,207,200 | Other bhadol cereals and bhadol pulses. | 30,100 | 30,100 | 28,100 | 75 | 75 | The full normal area could not be cultivated for want of timely and sufficient rains. |
| | | | Other bhadol food-crops (e.g., vegetables). | 3,500 | 3,100 | 3,000 | 85 | 70 | |
| | | | Other bhadol non-food-crops | 1,400 | 2,800 | 2,700 | 92 | 75 | |
| | | | Total | 215,400 | 306,500 | 300,100 | 75 | 77 | |

| District. | Total area of district in acres. | Total area in district cultivated to be under cultivation in acres. | Names of <i>bhadol</i> crops. | Approximate normal area crop in acres. | | | | | Estimated area this year <i>bhadol</i> crop in acres. | Taking 100 to represent the normal outturn, how much represented the outturn last year (1901)? | Taking 100 to represent the normal outturn, how much will represent this year's outturn (1902)? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
|-----------|----------------------------------|---|---|--|--|--|--|--|---|--|--|-------------------------------|--|
| | | | | 5 | 6 | 7 | 8 | 9 | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | | |
| Shahabad | 2,798,720 | 1,841,800 | <i>Bhadol</i> paddy Jowar Bajra Mandua (<i>marwa</i> or <i>ragi</i>) Indian-corn (maize) Other <i>bhadol</i> cereals and <i>bhadol</i> pulses. Other <i>bhadol</i> food-crops (<i>e.g.</i> , vegetables). Other <i>bhadol</i> non-food-crops Total | 57,500 8,200 4,200 45,600 61,200 11,500 16,500 20,700 234,400 | 52,200 7,000 3,400 47,000 82,300 16,700 15,000 30,000 193,600 | 45,700 7,100 3,200 37,800 40,200 14,600 9,800 16,600 174,900 | 51 63 75 70 74 70 68 68 67 | 84 88 76 86 87 81 83 88 85 | | | Owing to early and favourable rain a considerable area usually sown with <i>bhadol</i> crops has been brought under winter rice. The outturn would have been considerably larger had it not been for the very heavy rain in the latter half of July. | | |
| Saran | 1,708,720 | 1,257,300 | <i>Bhadol</i> paddy Jowar Bajra Mandua (<i>marwa</i> or <i>ragi</i>) Indian-corn (maize) Other <i>bhadol</i> cereals and <i>bhadol</i> pulses. Other <i>bhadol</i> food-crops (<i>e.g.</i> , vegetables). Other <i>bhadol</i> non-food-crops Total | 69,400 8,500 2,800 40,600 214,300 45,000 21,300 18,200 414,100 | 62,000 6,800 3,000 50,000 224,000 47,000 31,000 15,200 393,000 | 60,000 7,000 3,000 57,000 225,000 50,000 22,000 13,000 442,000 | 75 75 90 100 100 99 100 100 95 | 80 85 89 92 92 96 100 100 92 | | | | | |

| District. | Total area of district in acres. | Total area in district not included to be under cultivation in acres. | Names of <i>bhadol</i> crops. | | | | | Approximate normal area under each specified <i>bhadol</i> crop in acres. | Approximate area last year (1901) under each specified <i>bhadol</i> crop in acres. | Estimated area this year (1902) under each specified <i>bhadol</i> crop in acres. | Taking 100 to represent the normal outturn, how much represented the outturn last year (1901) ? | Taking 100 to represent the normal outturn, how much the outturn this year's outturn (1902) ? | Remarks by District Officer. | Remarks by the Department of Land Records and Agriculture, Bengal. | |
|-----------|----------------------------------|---|--|--|--|--|--|---|---|---|---|---|------------------------------|--|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | | | | |
| Bhagalpur | 2,704,640 | 2,097,000 | <i>Bhadol</i> paddy Jowar Mandua (<i>marua</i> or <i>ragi</i>) Indian-corn (maize) Other <i>bhadol</i> cereals and <i>bhadol</i> pulses, Other <i>bhadol</i> food-crops (<i>e.g.</i> , vegetables). Other <i>bhadol</i> non-food-crops Total | 817,000 82,000 123,100 242,600 45,300 2,900 26,600 | 816,900 82,000 123,100 242,600 45,300 2,900 26,600 | 317,900 82,000 123,100 242,600 45,300 2,900 26,600 | 79 113 94 107 113 93 113 | 77 100 75 100 100 88 100 | Owing to short rainfall in South Bhagalpur and floods at harvest time in Madhupur subdivision the outturn was below the normal. | | | | | | |
| Purnea | 3,186,513 | 1,680,800 | <i>Bhadol</i> paddy Jowar Mandua (<i>marua</i> or <i>ragi</i>) Indian-corn (maize) Other <i>bhadol</i> cereals and <i>bhadol</i> pulses, Other <i>bhadol</i> food-crops (<i>e.g.</i> , vegetables). Total | 516,500 1,400 4,400 4,400 6,000 10,000 | 508,700 1,100 4,100 3,900 6,000 10,000 | 516,500 1,100 4,100 4,500 6,000 10,000 | 73 100 88 88 75 93 | 80 100 98 100 70 92 | The figures for "other <i>bhadol</i> cereals and pulses" and "other food crops (vegetables, &c.)" have been revised. | | | | | | |

| Malis | 1,215,000 | 675,000 | Bhadol paddy | 190,000 | 190,000 | 190,000 | 94 | 100 | No increase or decrease and the sub- mission of the preliminary forecast. |
|-------|-----------|---------|---------------------------------|---------|---------|---------|-----|-----|---|
| | | | | | | | | | |
| | | | Jowar | 300 | 300 | 300 | 100 | 100 | |
| | | | Indian-corn (maize) | 17,700 | 17,000 | 17,000 | 87 | 100 | |
| | | | Other bhadol cereals and bhadol | 8,100 | 4,500 | 5,000 | 100 | 100 | |
| | | | pulses, | 2,800 | 2,000 | 2,000 | 87 | 100 | |
| | | | Other bhadol food-crops (e.g., | 7,000 | 6,000 | 6,000 | 87 | 100 | |
| | | | vegetables). | | | | | | |
| | | | Other bhadol non-food-crops | 236,500 | 219,600 | 230,300 | 93 | 100 | |
| | | | Total | | | | | | |
| | | | Bhadol paddy | 338,400 | 337,900 | 316,700 | 95 | 94 | The figures have been revised in light of the survey results. |
| | | | Jowar | 8,200 | 1,200 | 6,400 | 100 | 100 | |
| | | | Sajra | 40,500 | 31,000 | 30,000 | 88 | 100 | |
| | | | Mandua (marua or ragi) | 19,700 | 17,100 | 18,400 | 88 | 97 | |
| | | | Indian-corn (maize) | 171,400 | 168,000 | 153,000 | 93 | 105 | Owing to reasonable rainfall the outturn is expected to be nearly normal. |
| | | | Other bhadol cereals and bhadol | 116,300 | 96,600 | 104,300 | 81 | 100 | |
| | | | pulses, | 6,400 | 6,400 | 5,400 | 100 | 85 | |
| | | | Other bhadol food-crops (e.g., | 48,400 | 44,300 | 40,100 | 112 | 92 | |
| | | | vegetables). | | | | | | |
| | | | Other bhadol non-food-crops | 748,300 | 703,700 | 675,800 | 91 | 98 | |
| | | | Total | | | | | | |
| | | | Bhadol paddy | 163,100 | 156,000 | 133,100 | 71 | 97 | But or the abrupt recession of rains at the time of maturity, we would prob- ably have had a bumper crop. |
| | | | Mandua (marua or ragi) | 15,100 | 15,000 | 14,100 | 72 | 92 | |
| | | | Other bhadol cereals and bhadol | 8,300 | 8,300 | 8,400 | 71 | 93 | |
| | | | pulses, | 3,000 | 3,000 | 3,000 | 79 | 95 | |
| | | | Other bhadol food-crops (e.g., | 5,600 | 4,300 | 4,300 | 76 | 94 | |
| | | | vegetables). | | | | | | |
| | | | Other bhadol non-food-crops | 195,000 | 189,800 | 183,900 | 71 | 95 | |
| | | | Total | | | | | | |
| | | | Bhadol paddy | 88,300 | 107,400 | 107,400 | 75 | 100 | The increase in area and outturn is due to seasonable rains. |
| | | | Other bhadol cereals and bhadol | 800 | 1,500 | 1,500 | 75 | 100 | |
| | | | pulses, | 600 | 1,100 | 1,100 | 75 | 100 | |
| | | | Other bhadol food-crops (e.g., | 200 | 200 | 2,300 | 80 | 100 | |
| | | | vegetables). | | | | | | |
| | | | Other bhadol non-food-crops | 89,800 | 110,600 | 115,500 | 76 | 100 | |
| | | | Total | | | | | | |

| District. | Total area of district in acres. | Total area in district cultivated to be under cultivation in acres. | Name of bhadoi crops. | Approximate normal area under each specified bhadoi crop in acres. | Approximate area last year (1901) under each specified bhadoi crop in acres. | Estimated area this year (1902) under each specified bhadoi crop in acres. | Taking 100 to represent the normal outturn, how much will represent the outturn last year (1901)? | Taking 100 to represent the normal outturn, how much will represent this year's outturn (1902)? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
|-----------|----------------------------------|---|--|---|--|--|---|---|---|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Angul | 1,075,94 | 200,000 | Bhadoi paddy Mandua (marua or ragi) Indian-corn (maize) Other bhadoi cereals and bhadoi pulses. Other bhadoi food-crops (e.g., vegetables). Other bhadoi non-food-crops | 18,000 8,000 8,000 8,200 1,000 1,000 34,200 | 18,000 8,000 8,000 10,000 1,000 1,000 41,000 | 18,000 8,000 8,000 10,000 1,100 1,000 41,200 | 67 79 40 73 50 50 63 | 63 79 40 73 50 50 63 | | |
| Parl | 1,599,320 | 738,200 | Bhadoi paddy Mandua (marua or ragi) Indian-corn (maize) Other bhadoi cereals and bhadoi pulses. Other bhadoi food-crops (e.g., vegetables). Other bhadoi non-food-crops | 85,000 25,000 100 800 1,300 12,000 124,200 | 85,000 25,000 100 1,000 2,000 12,500 124,200 | 60,000 24,000 200 1,500 2,500 2,500 90,700 | 95 90 100 100 100 100 91 | 90 90 100 100 100 100 91 | The low outturn in the case of bhadoi paddy is due to excessive rainfall at the time of growth. | |
| Raurkibh | 4,435,440 | 1,703,000 | Bhadoi paddy Mandua (marua or ragi) Indian-corn (maize) Other bhadoi cereals and bhadoi pulses. Other bhadoi food-crops (e.g., vegetables). Other bhadoi non-food-crops | 73,200 118,000 188,200 180,800 1,200 76,100 587,500 | 73,200 118,000 188,200 180,800 1,300 75,100 587,500 | 73,200 118,000 188,200 180,800 1,200 75,100 587,500 | 98 95 98 95 95 100 95 | 98 95 98 95 95 100 95 | | |
| | | | Total | | 587,500 | 587,400 | 95 | 100 | | |

| | | | | | | | | | |
|-----------|-----------|-----------|--|---------|---------|---------|-----|-----|--|
| Kazehi | 4,569,439 | 1,579,300 | Bhadol paddy | 64,000 | 64,000 | 64,000 | 80 | 80 | The decrease in the outturn is due to the early cessation of rains. |
| | | | Indian-corn (maize) | 20,700 | 20,000 | 20,700 | 80 | 80 | |
| | | | Other bhadoi cereals and bhadoi pulses | 2,000 | 2,000 | 2,000 | 80 | 80 | |
| | | | Other bhadoi food crops (e.g., vegetables) | 40,300 | 40,100 | 40,300 | 90 | 90 | |
| | | | Total | 700 | 700 | 700 | 80 | 80 | |
| Palaman | 3,189,300 | 627,000 | Bhadol paddy | 96,000 | 83,000 | 95,000 | 70 | 70 | Bajra is known locally as jenora and hence was never identified with Bajra. The normal area was probably habitually underestimated. |
| | | | Jowar | 3,000 | 3,000 | 3,000 | 90 | 90 | |
| | | | Bajra | 3,800 | 2,300 | 2,300 | 90 | 90 | |
| | | | Mandua (marua or ragi) | 19,700 | 18,000 | 18,000 | 100 | 100 | |
| | | | Indian-corn (maize) | 50,000 | 35,000 | 45,000 | 100 | 100 | |
| Mandibum | 3,654,080 | 1,410,200 | Other bhadoi cereals and bhadoi pulses | 23,000 | 17,500 | 24,500 | 95 | 95 | Owing to the lateness of the rainfall and the want of rain in August a smaller area than the normal was planted out. Revised figures are taken from Police reports and on the basis of Palaman Government Estates settlement report. |
| | | | Other bhadoi food-crops (e.g., vegetables) | 4,400 | 4,400 | 4,400 | 95 | 95 | |
| | | | Other bhadoi non-food-crops | 5,000 | 5,000 | 5,000 | 95 | 95 | |
| | | | Total | 140,000 | 119,200 | 135,900 | 95 | 95 | |
| | | | Bhadol paddy | 174,300 | 150,000 | 139,000 | 125 | 100 | |
| Singhbhum | 2,526,050 | 833,800 | Jowar | 1,400 | 1,300 | 1,400 | 100 | 100 | Good rainfall during the season has improved the prospects of these crops. |
| | | | Bajra | 6,100 | 6,700 | 6,700 | 100 | 100 | |
| | | | Mandua (marua or ragi) | 20,000 | 17,000 | 18,000 | 110 | 90 | |
| | | | Indian-corn (maize) | 90,800 | 77,000 | 90,800 | 120 | 120 | |
| | | | Other bhadoi cereals and bhadoi pulses | 107,200 | 107,800 | 100,800 | 120 | 110 | |
| | | | Other bhadoi food-crops (e.g., vegetables) | 22,500 | 22,800 | 24,800 | 120 | 108 | |
| | | | Other bhadoi non-food-crops | 15,000 | 15,100 | 17,400 | 110 | 98 | |
| | | | Total | 438,300 | 395,700 | 388,400 | 121 | 100 | |
| | | | Bhadol paddy | 303,000 | 270,000 | 301,800 | 75 | 100 | |
| | | | Jowar | 6,000 | 5,000 | 4,000 | 95 | 100 | |
| | | | Bajra | 5,000 | 5,000 | 4,000 | 85 | 100 | |
| | | | Mandua (marua or ragi) | 15,000 | 15,000 | 15,000 | 100 | 100 | |
| | | | Indian-corn (maize) | 39,000 | 30,000 | 30,000 | 100 | 110 | |
| | | | Other bhadoi cereals and bhadoi pulses | 40,800 | 40,000 | 38,000 | 90 | 100 | |
| | | | Other bhadoi food-crops (e.g., vegetables) | 1,000 | 1,000 | 1,000 | 90 | 100 | |
| | | | Other bhadoi non-food-crops | 300 | 300 | 300 | 90 | 100 | |
| | | | Total | 363,300 | 376,300 | 357,000 | 89 | 101 | |

| Province. | Total area of the Province in acres. | Total area of the Province estimated to be under cultivation in acres. | Names of bhadoi crops. | Approximate normal area under each specified bhadoi crop in acres. | Approximate area last year (1901) under each specified bhadoi crop in acres. | Estimated area this year (1902) under each specified bhadoi crop in acres. | Taking 100 to represent the normal outturn, how much outturn (1901)? | Taking 100 to represent the normal outturn, how much will represent this year's outturn (1902)? | Remarks by District Officers. | Remarks by the Department of Land Records and Agriculture, Bengal. |
|-----------|--------------------------------------|--|--|---|---|---|--|---|-------------------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Bengal | 97,549,928 | 83,900,100 | Bhadoi paddy Jowar Rajra Mandua, sorghum or ragi Indian-corn (maize) Other bhadoi cereals and bhadoi pulses, &c. Other bhadoi food-crops (e.g., vegetables) Other bhadoi non-food-crops Total | 7,686,700 151,300 72,900 994,800 2,034,800 1,153,700 503,600 500,900 13,007,100 | 7,481,300 124,400 82,400 1,000,800 1,927,600 1,151,700 483,100 478,600 13,059,900 | 7,302,000 135,300 82,400 895,600 1,866,600 1,169,900 483,900 484,400 13,559,700 | 87 80 98 86 89 91 87 90 88 | 87 93 99 81 91 94 86 89 90* | ..... | * As estimated by this Department. |

APPENDIX II.
Abstract statement of estimated acreage and outturn of the bha loi paddy crop of 1902.

| PROVINCE. | ACREAGE— | | | | | | | | | | OUTTURN IN QWT. | | | | | Remarks by the Department of Land Records and Agriculture, Bengal. | | | | | |
|-----------|-------------------------|--------------------------|---|-----------|--|-----------|---|------------|------------|---|--|---|------------|------------|--|--|------------|---|--|----|--|
| | Of current year's crop. | Of previous year's crop. | Average of five preceding years (viz., 1896 to 1900). | | Average of eight preceding years (viz., 1893 to 1900). | | Percentage by which column 2 exceeds (+) or falls short of (—) area in— | | | Estimated yield of current year, i.e., of area in column 2. | Yield of previous year, i.e., of area in column 3. | Average of five preceding years (viz., 1896 to 1900). | | | Average of eight preceding years (viz., 1893 to 1900). | | | Percentage by which column 10 exceeds (+) or falls short of (—) outturn in— | | | |
| | | | Column 3. | Column 4. | Column 5. | Column 6. | Column 7. | Column 8. | Column 9. | | | Column 10. | Column 11. | Column 12. | Column 13. | | Column 14. | Column 15. | | | |
| 1 | | | | | | | | | | | | | | | | | | | | 16 | |
| Bengal | 7,362,000 | 7,431,300 | 7,622,400 | 7,386,100 | —1.74 | —2.93 | —1.27 | 47,208,700 | 47,409,700 | 46,591,300 | 45,702,200 | —0.61 | +0.63 | +3.30 | The outturns in columns 9 and 10 have been calculated with reference to the area and percentage outturn and to the normal rate of yield, which has been assumed to be 10 maunds of cleaned rice to the acre. | | | | | | |

CONSTITUTION OF A JUDGING COMMITTEE TO AWARD PRIZES TO
EXHIBITORS AT THE DELHI ART EXHIBITION.

The following is published for general information.

W. C. MACPHERSON,
Offg. Secy. to the Govt. of Bengal.

REVENUE DEPT.,
The 16th December 1902.

No. 50—32-6, dated Calcutta, the 12th December 1902.

RESOLUTION—By the Government of India, Department of Revenue and
Agriculture.

THE Governor-General in Council is pleased to appoint the following gentlemen, who have kindly intimated their willingness to undertake the task, to form a Judging Committee for the award of the prizes, medals and certificates, which will be presented to successful exhibitors and craftsmen at the forthcoming Exhibition of Indian Art Manufactures at Delhi.

President.

1. Colonel Sir Swinton Jacob, K.C.I.E., I.S.C., Superintending Engineer, Jaipur State.

Members.

2. Colonel Stuart Beatson, C.B., I.S.C., Inspector-General, Imperial Service Troops.
3. C. L. Burns, Esq., Acting Principal, Sir Jamsetjee Jeejeebhoy School of Art, Bombay.
4. Chevalier O. Ghilardi, Acting Principal, Government School of Art, Calcutta.
5. Colonel T. H. Hendley, I.M.S., C.I.E., Inspector-General of Civil Hospitals in Bengal.
6. R. D. Mackenzie, Esq.
7. The Honourable Munshi Madho Lal, Member of the Council of His Honour the Lieutenant-Governor, United Provinces.
8. Bhai Ram Singh, Vice-Principal, Mayo School of Art, Lahore.
9. E. Thurston, Esq., Superintendent, Central Museum, Madras.

Secretary.

R. E. V. Arbuthnot, Esq., I.C.S., Under-Secretary to the Government of India,
Department of Revenue and Agriculture.

The Committee will assemble at Delhi on Monday, December 22nd.

WEATHER AND CROP REPORT.

For the week ending the 15th December 1902.

Burdwan.—No rain. Weather fine. Harvesting of *aman* continues. Fodder and water sufficient. Condition of cattle good. Common rice sells at 11 seers per rupee.

Birbhum.—Rainfall nil. Weather fair. Harvesting going on. *Rabi* crop doing well. Fodder and water sufficient. Common rice sells at 13½ seers per rupee.

Bankura.—No rain. Weather fair and seasonable. Harvesting of paddy going on. *Rabi* crops suffering for want of rain. Fodder and water sufficient. Common rice sells at 14 seers per rupee.

Midnapore.—No rain. Weather seasonable. Harvesting of winter rice progressing. Fodder and water sufficient. Cattle-disease reported from Keshpur and Garhbata thanas. Common rice sells as follows:—

| | | | Srs. | ch. | |
|--------|-----|-----|------|------|--------------|
| Sadar | ... | ... | ... | 12 8 | } per rupee. |
| Contai | ... | ... | ... | 14 0 | |
| Tamluk | ... | ... | ... | 11 0 | |
| Ghatal | ... | ... | ... | 12 0 | |

Hooghly.—Rainfall nil. Weather seasonable. Prospect of standing crops fair. Fodder and water sufficient. Common rice sells as follows:—

| | | | Srs. | ch. | |
|-----------|-----|-----|------|-------|--------------|
| Sadar | ... | ... | ... | 10 0 | } per rupee. |
| Serampore | ... | ... | ... | 10 0 | |
| Arambagh | ... | ... | ... | 10 12 | |

Howrah.—No rain. Weather seasonable. *Aman* paddy is being reaped. Outturn 16 annas. Sugarcane doing well. Cultivation of *rabi* crops in progress. Common rice selling at 11 seers per rupee. No cattle-disease. Fodder and water-supply sufficient.

24 Parganas.—Rainfall nil. Weather cool. State and prospects of standing crops fair. Sowing of *rabi* crops and harvesting of *aman* continues. Common rice sells at 11 seers; in Barashat at 12 seers per rupee. Condition of cattle good. Supply of fodder and water sufficient.

Nadia.—Rainfall nil. Weather cold. Sky cloudy first half of the week. Harvesting of *aman* going on. Standing crops fair, but at Chuadanga more rain required. Fodder and water sufficient. No cattle-disease reported. Common rice sells as follows:—

| | | | Srs. | ch. | |
|-----------|-----|-----|------|------|--------------|
| Sadar | ... | ... | ... | 13 0 | } per rupee. |
| Ranaghat | ... | ... | ... | 12 0 | |
| Chuadanga | ... | ... | ... | 13 0 | |
| Kushtia | ... | ... | ... | 12 8 | |
| Meherpur | ... | ... | ... | 11 5 | |

Murshidabad.—Rainfall nil. Weather seasonable. Harvesting of *haimanti* paddy going on. Prospect of *rabi* crops good. No cattle-disease reported from anywhere. Fodder and water sufficient. Common rice sells as follows:—

| | | | Srs. | ch. | |
|----------|-----|-----|------|------|--------------|
| Sadar | ... | ... | ... | 11 0 | } per rupee. |
| Kandi | ... | ... | ... | 15 8 | |
| Jangipur | ... | ... | ... | 15 0 | |
| Lalbagh | ... | ... | ... | 13 0 | |

Jessore.—No rain. Weather seasonable. Prospect of crops fair. Fodder and water sufficient. Cattle-disease reported from Magura police-station. Common rice sells as follows:—

| | | | Srs. | ch. | |
|---------|-----|-----|------|-------|--------------|
| Sadar | ... | ... | ... | 12 0 | } per rupee. |
| Bangaon | ... | ... | ... | 12 5 | |
| Narail | ... | ... | ... | 12 5 | |
| Magura | ... | ... | ... | 12 12 | |
| Jhenida | ... | ... | ... | 12 0 | |

Khulna.—Rainfall nil. Weather seasonable. Harvesting of *aman* paddy continues. Transplantation of *boro* commenced. State of rape and mustard crops favourable. Fodder and water sufficient. A few cases of cattle-disease reported from Dumuria and Paikgachha. Common rice sells as follows:—

| | | | Srs. ch. | |
|----------|-----|-----|----------|--------------|
| Sadar | ... | ... | 12 12 | } per rupee. |
| Bagerhat | ... | ... | 13 8 | |
| Satkhira | ... | ... | 11 8 | |

Rajshahi.—Prospect of standing crops good. Harvesting of *aman* and sowing of *rabi* going on. Condition of cattle good. Fodder and water sufficient. Common rice selling at 13½ seers per rupee.

Dinajpur.—Rainfall nil. Weather seasonable. Standing crops good. No cattle-disease. Fodder and drinking water plentiful. Rice sells at 13 seers per rupee.

Jalpaiguri.—Rainfall nil. Weather seasonable. Harvesting of *haimanti* paddy going on. Transplantation of tobacco still continues in places. Common rice sells at 11 seers a rupee. Fodder and water sufficient.

Darjeeling.—Rainfall nil. Weather seasonable. *Hills*—*Haimanti dhan*, *bara marua*, *jow*, *barley*, *phaphar*, and *kutai dal*, doing well. Reaping of *haimanti* paddy continues. Prospects of standing crops good. Coarse rice sells as follows:—

| | | | Srs. ch. | |
|-------|-----|-----|----------|--------------|
| Hills | ... | ... | 8 0 | } per rupee. |
| Terai | ... | ... | 10 0 | |

Maize sells at Darjeeling at 20 seers and at Kalimpong at 24 seers per rupee.

Rangpur.—Rainfall nil. Weather seasonable. Harvesting of *aman* going on. Condition of standing crops good. Fodder and water sufficient. Common rice sells as follows:—

| | | | Srs. ch. | |
|------------|-----|-----|----------|--------------|
| Sadar | ... | ... | 12 8 | } per rupee. |
| Nilphamari | ... | ... | 11 0 | |
| Kurigram | ... | ... | 10 8 | |
| Gaibanda | ... | ... | 12 0 | |

Bogra.—No rain. Weather seasonable. *Rabi* sowings and harvesting of winter rice going on. Prospects good. Fodder and water sufficient. Common rice sells at 16 seers per rupee.

Pabna.—Rainfall nil. Weather cool. Prospects of standing crops fair. Fodder and water sufficient. No cattle-disease. Common rice sells at 14 seers and 11 chitaks per rupee.

Dacca.—Rainfall nil. Prospects of crops good. Weather seasonable. Fodder available. No cattle-disease. Common rice sells at 11½ seers per rupee.

Mymensingh.—Rainfall nil. Weather seasonable. The state of winter rice and rape and mustard good. *Rabi* sowings in progress. Fodder and water ample. No cattle-disease. Common rice sells as follows:—

| | | | Srs. ch. | |
|------------|-----|-----|----------|--------------|
| Sadar | ... | ... | 14 0 | } per rupee. |
| Kishorganj | ... | ... | 13 0 | |
| Jamalpur | ... | ... | 14 8 | |
| Netrakona | ... | ... | 14 14 | |
| Tangail | ... | ... | 12 3 | |

Faridpur.—No rain. Weather cold. State and prospects of crops good. Common rice sells at 12½ seers a rupee. Fodder available. No cattle-disease.

Backergunge.—Rainfall nil. Weather seasonable. Harvesting of *aman* continues. Fodder and water sufficient. Common *aman* (old) 10½ and (new) 12 seers per rupee.

Tippera.—Rainfall nil. Weather seasonable. Prospects good. Harvesting of *aman* and sowing of *rabi* continues. Fodder and water available. No cattle-disease. Common rice sells as follows:—

| | | | Srs. ch. | |
|--------------|-----|-----|----------|--------------|
| Sadar | ... | ... | 14 0 | } per rupee. |
| Brahmanbaria | ... | ... | 14 8 | |
| Chandpur | ... | ... | 11 0 | |

Noskhali.—No rain. Weather seasonable. Harvesting of *aman* continues. Prospects good. No cattle-disease. Fodder and water sufficient. Common rice sells at Sadar at 13 seers and at Feni at 14 seers per rupee.

Chittagong.—No rain. Cultivation of *rabi* crop is nearly over and reaping of *aman* crop commenced. Fodder and water sufficient. Common rice sells at 13 seers per rupee.

SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 17, 1902. 1891

Chittagong Hill Tracts.—Rainfall nil. Weather seasonable. Harvesting continues. Slight cattle-disease in Chandraghona. Rice sells at 11 seers per rupee.

Patna.—Rainfall nil. Weather cloudy. Paddy harvesting continues. Weeding of *rabi* commenced. Sugarcane being pressed. Poppy germinated. Prospects good. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

| | Srs. | ch. | |
|----------|------|------|--------------|
| Patna | ... | 15 8 | } per rupee. |
| Barh | ... | 16 0 | |
| Biḥar | ... | 15 0 | |
| Dinapore | ... | 15 8 | |

Gaya.—Rainfall nil. Weather cloudy, latterly bright. Standing crops promising. Harvesting of paddy in progress. Fodder and water for cattle sufficient. No cattle-disease. Common rice selling at 15½ seers in the rupee.

Shahabad.—Rainfall nil. Paddy being harvested and sugarcane being pressed. Poppy doing well. Fodder and water abundant. Rice at Sadar 14 seers per rupee.

Saran.—Rainfall nil. Weather cold and cloudy. Standing crops doing well. Harvesting of paddy continues. *Rabi* crops are being irrigated. No cattle-disease. Fodder and water sufficient. Common rice sells at 16 seers and maize at 28 seers per rupee at Chapra.

Champanan.—No rain. Weather cold and cloudy. Prospects of standing crops good. Harvesting of paddy continues. *Rabi* sowings still going on in places. Poppy doing well. No cattle-disease. Fodder and water sufficient. Common rice sells at 18½ seers, and maize at 29 seers per rupee.

Muzaffarpur.—Rainfall nil. Weather cool and cloudy at times. *Rabi* sowings nearly completed. Harvesting of winter rice continues. Prospects good. Fodder and water sufficient. Prices are—common rice 13, maize 29 seers a rupee.

Darbhanga.—Rainfall nil. Weather seasonable. Prospects of standing crops good. Harvesting of paddy in progress. Fodder and water sufficient. Cattle-disease is reported from Warisnagar thana. Common rice sells as follows:—

| | Srs. | ch. | |
|------------|------|-------|-------------|
| Sadar | ... | 19 12 | } per rupee |
| Samastipur | ... | 14 0 | |
| Madhubani | ... | 17 15 | |

Monghyr.—No rain. Weather cold and cloudy. Prospects of crops good. Harvesting of winter rice continues. Sugarcane pressing going on. Early sown poppy flourishing. Prospects hopeful. Fodder and water sufficient. Common rice sells as follows:—

| | Srs. | ch. | |
|-----------|------|------|--------------|
| Sadar | ... | 14 8 | } per rupee. |
| Begusarai | ... | 16 0 | |
| Jamui | ... | 12 0 | |

Bhagalpur.—Rainfall nil. Weather seasonable. Harvesting of winter paddy still going on. Outlook of *rabi* crop in Madhipura and Banka favourable. Cattle-disease reported from Madhipura thana. Fodder and water sufficient. Common rice sells as follows:—

| | Srs. | ch. | |
|-----------|------|------|--------------|
| Sadar | ... | 15 2 | } per rupee. |
| Banka | ... | 16 7 | |
| Madhipura | ... | 19 0 | |
| Supaul | ... | 20 0 | |

Purnea.—No rain. Weather cold. Harvesting of winter rice going on briskly. Sowing of *rabi* crops over. Prospects good. No cattle-disease. Fodder and water sufficient. Common rice sells as follows:—

| | Srs. | ch. | |
|------------|------|------|--------------|
| Sadar | ... | 12 0 | } per rupee. |
| Kishanganj | ... | 12 0 | |
| Araria | ... | 14 0 | |

Malda.—Rainfall nil. Weather cloudy. Harvesting of winter rice in progress. Sowing of *rabi* finished. Cattle-pox reported from thana Nawabganj. No want of fodder and water. Common rice sells at 16 seers per rupee.

Sonthal Parganas.—Rainfall nil. Weather cool and cloudy. Harvesting of winter rice in progress. Sugarcane and other standing crops doing well. Cattle-disease reported from Pakaur. Fodder and water sufficient. Common rice sells at 14 seers per rupee in Dumka.

Cuttack.—No rain. Weather seasonable. Prospects unchangeable. *Guru Sarad* being harvested. Fodder and water available. Common rice sells at Sadar at 15½ seers per rupee.

Balasore.—Rainfall nil. *Sarad* being harvested. Sugarcane being pressed at places. Other crops doing well. Rice sells at 15 and 14 seers at Bhadrak and Sadar respectively. Fodder and water sufficient.

Angul.—No rain. Weather seasonable. Harvesting of paddy and crushing of sugarcane continue. Cattle-disease reported from the interior. Common rice sells at 17 and 16½ seers at Sadar and Khondmals respectively.

Puri.—Rainfall nil. Weather seasonable. Harvesting of winter rice going on. Outturn expected to be slightly below normal. Pressing of sugarcane continues at places. Miscellaneous crops doing well. More rain is wanted for the *rabi* crops. Fodder and water-supply sufficient. Common rice sells at 14 seers 7 chitaks per rupee.

Hazaribagh.—No rain. Weather cool. Harvesting of winter paddy still going on. Cattle-disease reported from two thanas. Standing crops doing well. Fodder and water sufficient. Common rice sells at 14½ seers per rupee.

Ranchi.—Rainfall nil. Weather seasonable. Reaping of *Sirguja* and *Kurthi* in progress. Threshing of paddy nearly finished. Cattle-disease reported from Ranchi and Khunti thanas. Fodder and water sufficient. Common rice sells at 17 seers per rupee.

Palamau.—No rain. Weather seasonable. Rain wanted for standing crops. Cattle-disease continues in places. Fodder and water sufficient. Rice sells at Sadar at 15½ seers and maize 23 seers 10 chitaks per rupee.

Manbhum.—No rain. Weather cold. Prospects of crops good. Harvesting of winter rice nearly over. Fodder and water sufficient. Cattle-disease not reported. Average price of common rice at Sadar 16 seers and at Gobindpur 12½ seers per rupee.

Singhbhum.—Rainfall nil. *Rabi* crops need rain. Price of rice 16 seers per rupee at Sadar.

General Summary.—No rain. Standing *rabi* crops need rain in the districts of Bankura, Nadia, Puri, Palamau and Singbhum. Prospects otherwise good. Harvesting of winter rice going on. Poppy doing well. Pressing of sugarcane continues. Cattle-disease reported from 12 districts. Fodder and water sufficient. The price of common rice has fallen in 20 districts, risen in 4, and is stationary in the rest (23).



By order of the Lieutenant-Governor of Bengal,

W. C. MACPHERSON,

Offg. Secretary to the Govt. of Bengal.

REVENUE DEPARTMENT,
The 16th December 1902.

Results of the Meteorological Observations taken at the Alipore Observatory from 7th to 13th December 1902.

| Month. | Date. | Maximum in sun. | Number of hours of bright sunshine. | Mean pressure barometer at 34° Fahr. | TEMPERATURE. | | | | HYGROMETRY. | | | | WIND. | | Rain. | WEATHER. |
|--------|-------|-----------------|-------------------------------------|--------------------------------------|--------------|----------|--------|----------|----------------|-----------------|------------|-----------|-----------------------|-----------------|---------|--|
| | | | | | Mean. | Maximum. | Range. | Minimum. | Mean wet bulb. | Vapour tension. | Dew point. | Humidity. | Prevailing direction. | Miles recorded. | | |
| 1902. | | | | Inches. | ° | ° | ° | ° | ° | Inches. | ° | % | | | Inches. | |
| Dec. | 7th | 134.9 | 1.2 | 29.976 | 66.3 | 76.2 | 19.0 | 57.2 | 60.7 | 0.458 | 56.4 | 73 | NNE and N by W | 68 | Nil | Chiefly cloudy, c. |
| " | 8th | 129.7 | 1.7 | .962 | 68.9 | 77.4 | 16.1 | 61.3 | 61.6 | .452 | 56.1 | 85 | N by W and N ... | 82 | " | Chiefly cloudy, o. g. |
| " | 9th | 130.9 | 7.4 | .940 | 67.1 | 77.5 | 18.5 | 59.0 | 59.3 | .404 | 53.0 | 63 | N and NNW .. | 95 | " | Chiefly clear. |
| " | 10th | 131.1 | 3.3 | .932 | 65.9 | 75.4 | 18.3 | 57.1 | 57.3 | .360 | 49.9 | 58 | N by W and N ... | 82 | " | Chiefly cloudy, o. g. |
| " | 11th | 133.7 | 4.2 | .971 | 67.5 | 76.5 | 16.1 | 60.4 | 57.4 | .340 | 48.4 | 50 | N by W and N ... | 85 | " | Chiefly cloudy, c. |
| " | 12th | 130.0 | 7.0 | .992 | 64.7 | 76.9 | 23.2 | 53.7 | 57.9 | .391 | 52.2 | 64 | N and N by W ... | 71 | " | Chiefly clear,  |
| " | 13th | 128.5 | 3.1 | 30.020 | 66.4 | 78.0 | 21.9 | 56.1 | 59.3 | .412 | 53.6 | 64 | N by W and N ... | 69 | " | Clear,  |

| | | |
|---|---------|--------|
| The mean pressure of the seven days ... | Inches. | 29.970 |
| The average pressure of the corresponding period for 24 years, Surveyor-General's Office ... | Inches. | 30.024 |
| The total number of hours of bright sunshine ... | Hours. | 32.9 |
| The maximum possible number of hours of sunshine ... | ° | 75.2 |
| The mean temperature of the seven days ... | ° | 66.7 |
| The average temperature of the corresponding period for 24 years, Surveyor-General's Office ... | ° | 68.4 |
| The extreme variation of temperature ... | ° | 24.3 |
| The maximum temperature ... | ° | 78.0 |
| The highest velocity of the wind in one hour ... | Miles. | 11 |
| The mean relative humidity ... | % | 62 |
| The average relative humidity of the corresponding period for 24 years, Surveyor-General's Office ... | % | 71 |
| The total fall of rain from 7th to 13th December 1902 ... | Inches. | Nil. |
| The average fall of the corresponding period for 24 years, Surveyor-General's Office ... | Inches. | 0.03 |
| The total fall from 1st January to 13th December 1902 ... | Inches. | 61.62 |
| The average fall of the corresponding period for 24 years, Surveyor-General's Office ... | Inches. | 65.22 |

The mean pressure, temperature, &c., are deduced from the traces of the Barograph and Thermograph, and from eye observations.


The maximum and minimum temperatures are obtained from self-registering thermometers. All the thermometers are verified, and the readings have been corrected to a standard constructed and verified at the Kew Observatory. They are exposed under a thatched shed open at the sides, and are suspended four feet above the ground.

The barometer readings are corrected approximately to those of the standard, Newman's No. 86, formerly at the Surveyor-General's Office.

The hygrometric elements are obtained from Tables III, IV, and V of the official tables computed in the Meteorological Office, and based on Regnault's modifications of August's formula.

The directions and the movement of the wind are taken from the trace of a Beckley's anemograph.

The mouth of the rain-gauge is one foot above the ground.

o, overcast, g, gloomy; , dew.

METEOROLOGICAL OFFICE, GOVT. OF INDIA;
Alipore (Calcutta), the 15th December 1902.

G. W. KUHLER,
for Meteorological Reporter to the Govt. of India
and Director-General of Indian Observatories.

Meteorological Report of the Province of

| METEOROLOGICAL DIVISION. | Division. | District. | Representative stations. | STATION OBSERVATIONS. | | | | | | | | | | | | |
|--------------------------|---------------|-------------------------|--------------------------|-------------------------------------|------------------------------------|----------------------------------|---|-----------------------------|--------------------------|-------------------------------|-------------------|------------------|---------------------------------|---------------------------------|-------------------------|-----------------------------|
| | | | | AIR PRESSURE. | | | | | WIND. | | TEMPERATURE. | | | | | |
| | | | | Highest, 8 A.M., barometer reading. | Lowest, 8 A.M., barometer reading. | Mean, 8 A.M., barometer reading. | Mean reduced to sea-level and constant gravity, Lat. 45°. | Variation from normal mean. | Mean direction at 8 A.M. | Mean velocity in miles daily. | Highest of month. | Lowest of month. | Mean daily maximum temperature. | Mean daily minimum temperature. | Mean daily temperature. | Variation from normal mean. |
| SOUTH-WEST BENGAL. | Burdwan | Burdwan | Burdwan | 30.092 | 29.876 | 29.974 | 30.094 | +0.43 | N16°W | 19 | 88.3 | 88.6 | 84.0 | 63.6 | 73.8 | +0.1 |
| | | Birbhum | Haniganj | 29.849 | 29.628 | 29.731 | 30.031 | — | N18°E | 14 | 88.4 | 84.2 | 83.6 | 60.5 | 73.1 | —0.4 |
| | | Bankura | Bankura | 29.860 | 29.656 | 29.758 | 30.019 | — | Calm | 22 | 88.1 | 85.8 | 85.5 | 63.2 | 73.6 | —0.1 |
| | | Midnapore | Midnapore | 30.028 | 29.818 | 29.922 | 30.024 | +0.40 | N3°W | 46 | 90.3 | 85.6 | 84.5 | 63.0 | 73.8 | +0.9 |
| | | Hoochly | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Presidency | 24-Parganas | Saugor Island | 30.157 | 29.944 | 30.045 | 30.015 | +0.46 | N46°E | 152 | 88.9 | 89.9 | 83.8 | 66.0 | 76.7 | +0.3 |
| | | Calcutta | Calcutta | 30.166 | 29.952 | 30.057 | 30.025 | +0.53 | N21°W | 60 | 88.1 | 87.1 | 82.7 | 63.4 | 73.1 | +0.1 |
| | | Nadia | Krishnagar | 30.153 | 29.934 | 30.044 | 30.041 | — | N23°W | 42 | 87.7 | 83.5 | 83.7 | 61.0 | 73.4 | —0.5 |
| | | Murshidabad | Berhampore | 30.121 | 29.907 | 30.014 | 30.031 | +0.51 | N16°W | 32 | 87.2 | 80.7 | 83.7 | 64.7 | 74.2 | +1.3 |
| | | Jessore | Jessore | 30.136 | 29.926 | 30.030 | 30.011 | +0.45 | N27°E | 18 | 89.5 | 84.1 | 82.7 | 61.2 | 73.0 | —1.6 |
| NORTH BENGAL. | Rajshahi | Khulna | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | | Rajshahi | Rampur Halia | 30.107 | 29.897 | 30.000 | 30.030 | +0.62 | W | 11 | 85.1 | 88.1 | 81.5 | 62.8 | 72.3 | +0.2 |
| | | Dinajpur | Dinajpur | 30.048 | 29.840 | 29.957 | 30.041 | +0.51 | N10°E | 28 | 85.3 | 84.0 | 81.7 | 59.6 | 70.7 | —1.1 |
| | | Jalpaiguri | Jalpaiguri | 29.899 | 29.684 | 29.765 | 30.057 | +0.53 | N12°E | 30 | 82.4 | 83.5 | 80.2 | 50.4 | 69.8 | —1.3 |
| | | Darjeeling | Darjeeling | 23.172 | 22.978 | 23.107 | — | +0.07 | N45°E | 9 | 62.5 | 39.0 | 54.8 | 42.0 | 48.4 | +0.1 |
| | Dacca | Cooh Behar | Cooh Behar | 30.030 | 29.805 | 29.938 | 30.055 | — | N32°E | 29 | 88.2 | 83.5 | 80.7 | 60.0 | 70.4 | — |
| | | Rangpur | Rangpur | 30.061 | 29.844 | 29.950 | 30.082 | +0.72 | N68°E | 42 | 84.7 | 80.3 | 81.3 | 60.5 | 70.9 | —0.3 |
| | | Bogra | Bogra | 30.086 | 29.833 | 30.002 | 30.012 | +0.66 | N22°E | 50 | 85.2 | 87.2 | 81.5 | 62.5 | 72.0 | —0.2 |
| | | Pabna | Sirajganj | 30.110 | 29.905 | 30.020 | 30.030 | +0.62 | S72°E | 15 | 86.3 | 80.0 | 81.7 | 63.0 | 72.8 | +0.7 |
| | | Dacca | Narayanganj | 30.139 | 29.926 | 30.041 | 30.016 | +0.59 | N20°E | 36 | 88.1 | 89.8 | 82.9 | 65.8 | 74.4 | —0.4 |
| EAST BENGAL. | Chittagong | Mymensingh | Mymensingh | 30.092 | 29.890 | 30.000 | 30.013 | +0.39 | Calm | 21 | 86.1 | 83.4 | 81.7 | 63.2 | 72.5 | —0.2 |
| | | Faridpur | Faridpur | 30.123 | 29.915 | 30.026 | 30.021 | +0.63 | N10°E | 28 | 86.5 | 85.8 | 81.6 | 62.4 | 72.0 | —0.9 |
| | | Backergunge | Barisal | 30.118 | 29.925 | 30.026 | 29.985 | +0.36 | N3°W | 32 | 88.3 | 87.2 | 82.9 | 63.6 | 73.3 | —0.7 |
| | | Tippura | Comilla | 30.106 | 29.901 | 30.020 | 30.005 | — | E | 24 | 85.3 | 84.0 | 88.6 | 61.8 | 73.7 | —1.3 |
| | | Noakhali | Noakhali | 30.104 | 29.891 | 30.000 | 29.996 | — | N27°E | 39 | 88.5 | 84.1 | 83.7 | 61.0 | 72.8 | —0.6 |
| | Patna | Chittagong | Chittagong | 30.059 | 29.873 | 29.972 | 30.010 | +0.56 | N46°E | 65 | 88.5 | 87.1 | 83.7 | 62.4 | 73.0 | —1.4 |
| | | Chittagong Hill Tracts | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | | Patna | Bankipore | 30.006 | 29.786 | 29.904 | 30.043 | +0.39 | S66°W | 50 | 85.5 | 84.9 | 82.0 | 60.7 | 71.4 | +0.3 |
| | | Gaya | Gaya | 30.060 | 29.837 | 29.705 | 30.053 | +0.40 | S27°W | 69 | 87.7 | 82.3 | 83.3 | 59.9 | 71.1 | —0.4 |
| | | Shahabad | Dehri | 29.843 | 29.606 | 29.730 | 30.053 | +0.46 | S21°W | 73 | 87.1 | 84.7 | 82.7 | 60.2 | 71.6 | —0.1 |
| BIHAR. | Bhagalpur | Shahabad | Buxar | 29.949 | 29.733 | 29.852 | 30.037 | +0.54 | S30°W | 75 | 89.0 | 81.1 | 83.5 | 58.6 | 71.1 | +0.5 |
| | | Narad | Arrah | 30.010 | 29.792 | 29.908 | 30.000 | — | N70°W | 21 | 86.9 | 81.1 | 82.8 | 59.6 | 69.7 | —0.8 |
| | | Champanan | Chapra | 30.009 | 29.782 | 29.901 | 30.045 | — | S56°W | 20 | 87.1 | 83.5 | 82.7 | 57.8 | 70.3 | —0.2 |
| | | Musafarpur | Mothari | 29.989 | 29.750 | 29.877 | 30.068 | — | N39°E | 26 | 84.9 | 81.9 | 81.7 | 55.9 | 68.8 | 0 |
| | | Musafarpur | Musafarpur | 30.017 | 29.796 | 29.916 | 30.056 | — | S45°E | 16 | 84.7 | 83.3 | 80.6 | 58.8 | 69.7 | — |
| | Orissa | Darbhanga | Darbhanga | 30.007 | 29.798 | 29.900 | 30.037 | +0.57 | N46°W | 17 | 84.2 | 80.7 | 81.1 | 61.4 | 71.3 | —0.4 |
| | | Monghyr | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | | Bhagalpur | Bhagalpur | 30.043 | 29.814 | 29.929 | 30.048 | +0.68 | E | 21 | 86.0 | 82.6 | 82.2 | 59.3 | 70.8 | +0.3 |
| | | Purnea | Purnea | 30.069 | 29.842 | 29.966 | 30.032 | +0.57 | N11°E | 20 | 85.0 | 81.1 | 81.2 | 57.8 | 69.5 | —1.1 |
| | | Malda | Malda | 30.092 | 29.877 | 29.994 | 30.020 | — | N3°W | 1 | 85.9 | 80.0 | 81.3 | 61.9 | 71.8 | —0.1 |
| CHOTA NAGPUR. | Orissa | Sinthal Parganas | Naya Dumka | 30.030 | 29.800 | 29.935 | 30.056 | +0.66 | N27°W | 32 | 85.2 | 83.0 | 81.0 | 59.9 | 70.5 | 0 |
| | | Outtock | Outtock | 30.127 | 29.894 | 30.000 | 30.025 | +0.68 | N46°W | 24 | 87.4 | 80.6 | 80.1 | 64.8 | 75.5 | —0.3 |
| | | False Point | False Point | 30.162 | 29.949 | 30.032 | 30.015 | +0.62 | N30°W | 113 | 87.4 | 84.5 | 83.3 | 62.9 | 73.1 | —0.9 |
| | | Balasore | Balasore | 30.156 | 29.938 | 30.043 | 30.037 | +0.51 | N32°W | 43 | 87.2 | 83.5 | 84.3 | 61.3 | 72.3 | —0.6 |
| | | Puri | Puri | 30.161 | 29.943 | 30.043 | 30.016 | — | N2°W | 167 | 87.2 | 81.6 | 84.5 | 68.1 | 76.4 | — |
| | Chota Nagpur. | Hasaribagh | Gopalpur | 30.159 | 29.940 | 30.047 | 30.008 | +0.45 | N21°W | 251 | 88.3 | 86.0 | 84.5 | 65.9 | 75.3 | +0.1 |
| | | Ranchi | Hasaribagh | 28.134 | 27.940 | 28.031 | 30.046 | +0.41 | N45°W | 101 | 82.2 | 81.2 | 75.4 | 58.2 | 68.3 | +0.7 |
| | | Ranchi | Ranchi | 27.994 | 27.805 | 27.901 | 30.040 | +0.36 | N30°W | 67 | 81.0 | 80.9 | 77.9 | 68.1 | 69.0 | +0.3 |
| | | Palamu | Daltonganj | 29.456 | 29.231 | 29.365 | 30.093 | — | S45°E | 36 | 86.5 | 85.2 | 82.4 | 53.8 | 67.6 | — |
| | | Manbhum | Purulia | 29.361 | 29.124 | 29.250 | 30.053 | — | N53°W | 23 | 86.5 | 85.6 | 82.4 | 54.3 | 71.1 | — |
| ASSAM. | Chota Nagpur. | Singbhum | Chaitanya | 29.398 | 29.204 | 29.304 | 30.047 | +0.67 | N54°W | 17 | 86.3 | 83.9 | 83.3 | 59.6 | 71.5 | —0.5 |
| | | Dibrugarh | Dibrugarh | 29.854 | 29.618 | 29.755 | 30.085 | — | N54°E | 24 | 83.6 | 80.9 | 78.7 | 57.2 | 68.0 | — |
| | | Sibsagar | Sibsagar | 29.861 | 29.638 | 29.781 | 30.088 | +0.61 | N34°E | 29 | 86.3 | 80.9 | 76.8 | 57.1 | 67.0 | —0.0 |
| | | Tezpur | Tezpur | 29.939 | 29.721 | 29.855 | 30.073 | — | N61°E | 28 | 81.1 | 84.0 | 77.6 | 59.7 | 68.7 | — |
| | | Kamrup | Gauhati | 30.004 | 29.782 | 29.816 | 30.076 | — | N36°E | 38 | 85.0 | 80.1 | 80.5 | 58.6 | 69.6 | — |
| | Assam. | Goalpara | Dhubri | 30.064 | 29.858 | 29.972 | 30.047 | +0.53 | N76°E | 98 | 85.1 | 86.5 | 72.8 | 61.1 | 70.5 | —1.3 |
| | | Goalpara | Goalpara | 30.073 | 29.855 | 29.978 | 30.036 | +0.59 | S70°E | 41 | 89.5 | 80.9 | 85.1 | 60.3 | 72.7 | —1.6 |
| | | Okhar | Okhar | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | | Khul and Jaintia Hills. | Shillong | 25.337 | 25.140 | 25.267 | — | — | S40°E | 41 | 73.0 | 40.0 | 66.8 | 45.2 | 56.0 | — |
| | | Cherrapunji | Cherrapunji | 25.820 | 25.740 | 25.810 | — | — | S60°E | 106 | 73.8 | 49.9 | 67.4 | 53.1 | 60.3 | — |

Bengal for the month of November 1902.

| DISTRICT OBSERVATIONS. | | | | | | | | | | | | | | | | DISTRICT. |
|------------------------|-----------------------------|---------------------------|------------------------------------|------------|-------------------|--------------|----------------------|-----------------------|-----------------------------------|--------------------------|--------------|------------|----------------------------|-----------------------------------|--------------------------|-----------|
| HUMIDITY. | | CLOUD. | | Rain-fall. | RAINFALL— | | | | | | | | | | | |
| Mean, 8 A.M. | Variation from normal mean. | Mean cloud amount, 8 A.M. | Variation from normal mean, 8 A.M. | | Of month. | | | | | Since 16th October 1902. | | | | | | |
| | | | | | Mean of district. | Normal mean. | Variation from mean. | Number of rainy days. | Normal mean number of rainy days. | Mean of district. | Normal mean. | Variation. | Mean number of rainy days. | Normal mean number of rainy days. | | |
| | | | | | | | | | | | | | | | | |
| 78 | +4 | 1.8 | -0.7 | 0.09 | 0.26 | 0.63 | -0.37 | 0.40 | 0.72 | 0.94 | 1.86 | -0.92 | 1.80 | 2.14 | Burdwan. | |
| 77 | - | 1.0 | - | 0.08 | 0.29 | 0.41 | -0.12 | 0.67 | 0.63 | 0.84 | 1.03 | -1.03 | 1.84 | 1.96 | Birbhum. | |
| 76 | - | 1.3 | - | 0.45 | 0.28 | 0.54 | -0.26 | 0.40 | 0.85 | 0.76 | 1.65 | -0.89 | 1.51 | 2.30 | Bankura. | |
| 75 | - | 0.9 | - | 1.00 | 0.37 | 0.68 | -0.31 | 0.71 | 0.75 | 0.80 | 2.43 | -1.68 | 1.09 | 2.37 | Midnapore. | |
| | | | | | 0.63 | 0.61 | +0.02 | 1.00 | 0.77 | 0.86 | 2.06 | -1.10 | 1.67 | 2.80 | Hoochly. | |
| | | | | | 0.38 | 0.50 | -0.12 | 1.00 | 0.77 | 0.86 | 1.72 | -0.86 | 1.67 | 2.49 | Howrah. | |
| 87 | +4 | 2.2 | -1.0 | 0.01 | 0.47 | 0.82 | -0.35 | 0.86 | 1.04 | 1.04 | 2.31 | -1.25 | 1.72 | 3.00 | 24-Parganas. | |
| 86 | +5 | 1.4 | -1.2 | 0.05 | 0.66 | 0.62 | -0.07 | 0.00 | 0.96 | 2.65 | 1.72 | +0.93 | 3.00 | 2.86 | Calcutta. | |
| 85 | - | 1.7 | - | Nil | 0.32 | 0.74 | -0.42 | 1.00 | 0.73 | 0.61 | 2.26 | -1.65 | 2.20 | 2.44 | Nadia. | |
| 84 | - | 1.9 | -0.3 | 0.03 | 0.16 | 0.49 | -0.33 | 0.56 | 0.65 | 0.70 | 1.78 | -1.08 | 2.19 | 2.05 | Murshidabad. | |
| 83 | +5 | 1.3 | -1.4 | 0.06 | 0.13 | 0.86 | -0.73 | 0.20 | 0.97 | 0.31 | 2.66 | -2.35 | 0.80 | 2.90 | Jessore. | |
| 82 | +7 | 1.3 | - | | 0.43 | 0.93 | -0.45 | 0.80 | 1.06 | 0.71 | 2.94 | -2.23 | 1.60 | 3.04 | Khulna. | |
| 81 | - | 0.7 | - | 0.12 | 0.23 | 0.38 | -0.15 | 0.67 | 0.65 | 0.43 | 1.46 | -1.02 | 1.17 | 1.86 | Rajshahi. | |
| 80 | - | 0.8 | - | Nil | Nil | 0.09 | -0.09 | 0.00 | 0.26 | 0.26 | 0.93 | -0.66 | 0.40 | 1.44 | Dinajpur. | |
| 79 | - | 1.3 | - | Nil | 0.36 | 0.35 | 0 | 0.83 | 0.84 | 0.86 | 2.31 | -1.45 | 1.03 | 2.34 | Falgaiguri. | |
| 78 | +4 | 2.5 | -0.8 | 0.55 | 0.41 | 0.32 | +0.09 | 1.20 | 0.77 | 1.18 | 1.81 | -0.63 | 2.70 | 2.29 | Darjeeling. | |
| 77 | - | 0.7 | - | Nil | Nil | 0.13 | -0.12 | 0.00 | 0.33 | 0.33 | 1.49 | -1.16 | 1.00 | 1.63 | Cooch Behar. | |
| 76 | - | 1.0 | - | Nil | Nil | 0.15 | -0.15 | 0.00 | 0.21 | 0.63 | 1.60 | -0.97 | 0.86 | 1.33 | Rangpur. | |
| 75 | - | 1.3 | - | Nil | Nil | 0.55 | -0.55 | 0.00 | 0.64 | 0.19 | 2.04 | -1.85 | 0.75 | 1.77 | Bogra. | |
| 74 | - | 1.8 | - | Nil | 0.06 | 0.57 | -0.51 | 0.50 | 0.86 | 0.19 | 2.16 | -1.97 | 1.00 | 2.75 | Fabna. | |
| 73 | +5 | 2.1 | 0 | Nil | 0.03 | 1.03 | -1.00 | 0.20 | 1.23 | 0.03 | 2.65 | -2.62 | 0.20 | 3.13 | Dacca. | |
| 72 | - | 1.3 | - | Nil | Nil | 0.60 | -0.60 | 0.00 | 0.76 | 0.33 | 2.39 | -1.96 | 0.83 | 2.68 | Mymensingh. | |
| 71 | - | 1.3 | - | 0.21 | 0.21 | 0.06 | -0.74 | 0.67 | 1.02 | 0.25 | 2.63 | -2.38 | 1.00 | 3.03 | Faridpur. | |
| 70 | - | 1.2 | - | 0.45 | 0.26 | 1.05 | -0.79 | 0.86 | 1.25 | 0.85 | 3.73 | -3.38 | 1.15 | 3.37 | Backergunge. | |
| 69 | - | 0.6 | - | 0.16 | 0.04 | 0.94 | -0.90 | 0.22 | 1.24 | 0.23 | 2.83 | -2.60 | 0.51 | 3.39 | Tippera. | |
| 68 | - | 1.8 | - | Nil | Nil | 1.44 | -1.44 | 0.00 | 1.44 | Nil | 4.35 | -4.35 | 0.00 | 3.66 | Noakhali. | |
| 67 | -1 | 1.1 | -2.2 | Nil | Nil | 1.29 | -1.29 | 0.00 | 1.53 | Nil | 5.35 | -5.35 | 0.00 | 4.18 | Chittagong. | |
| | | | | | Nil | 1.25 | -1.25 | 0.00 | 1.67 | Nil | 4.85 | -4.85 | 0.00 | 4.38 | Chittagong Hill Tracts. | |
| 66 | +4 | 0.8 | -0.7 | Nil | Nil | 0.19 | -0.19 | 0.00 | 0.33 | 0.13 | 1.23 | -1.10 | 0.33 | 1.33 | Patna. | |
| 65 | +8 | 1.7 | -0.1 | 0.33 | 0.17 | 0.20 | -0.03 | 0.67 | 0.35 | 0.42 | 0.98 | -0.63 | 1.34 | 1.36 | Gaya. | |
| 64 | - | 0.8 | - | 0.32 | 0.07 | 0.33 | -0.26 | 0.15 | 0.38 | 0.42 | 1.43 | -1.01 | 1.06 | 1.38 | Shahabad. | |
| 63 | - | 0 | - | Nil | | | | | | | | | | | | |
| 62 | - | 0.7 | - | 0.03 | 0.01 | 0.18 | -0.17 | 0.00 | 0.28 | 0.05 | 1.20 | -0.65 | 0.67 | 0.90 | Saran. | |
| 61 | - | 0 | - | Nil | Nil | 0.11 | -0.11 | 0.00 | 0.30 | 0.63 | 0.79 | -0.17 | 1.25 | 0.80 | Champanan. | |
| 60 | - | 0 | - | Nil | Nil | 0.11 | -0.11 | 0.00 | 0.38 | 0.56 | 0.96 | -0.40 | 0.67 | 0.99 | Muzaffarpur. | |
| 59 | +8 | 0.4 | -0.4 | Nil | Nil | 0.11 | -0.11 | 0.00 | 0.31 | 0.38 | 0.84 | -0.46 | 0.80 | 0.91 | Darbhanga. | |
| 58 | - | 0.7 | - | 0.03 | 0.01 | 0.09 | -0.07 | 0.00 | 0.30 | 0.81 | 1.04 | -0.23 | 1.00 | 1.10 | Monghyr. | |
| 57 | +11 | 0 | -0.9 | Nil | Nil | 0.07 | -0.07 | 0.00 | 0.18 | 0.25 | 0.94 | -0.69 | 0.43 | 1.07 | Bhagalpur. | |
| 56 | - | 0.8 | - | Nil | 0.01 | 0.22 | -0.21 | 0.00 | 0.16 | 0.33 | 0.90 | -0.67 | 0.43 | 0.98 | Furnee. | |
| 55 | - | 1.3 | - | 0.46 | 0.11 | 0.28 | -0.17 | 0.39 | 0.46 | 0.78 | 1.24 | -1.02 | 0.25 | 1.15 | Malda. | |
| 54 | +7 | 2.1 | -0.8 | Nil | 0.03 | 1.67 | -1.64 | 0.12 | 1.73 | 0.95 | 4.00 | -3.05 | 1.88 | 4.41 | Sonthal Parganas. | |
| 53 | +1 | 2.4 | +0.0 | 0.27 | 0.10 | 1.01 | -0.91 | 0.29 | 1.31 | 1.12 | 2.90 | -1.78 | 2.00 | 3.41 | Outback. | |
| 52 | - | 1.5 | - | 0.25 | 0.93 | 1.06 | -1.03 | 1.43 | 1.91 | 1.78 | 4.89 | -3.11 | 3.06 | 4.91 | Balasore. | |
| 51 | - | 0.8 | - | 0.14 | | | | | | | | | | | Puri. | |
| 50 | +1 | 1.8 | -0.8 | 0.05 | 0.03 | 0.31 | -0.28 | 0.00 | 0.53 | 0.44 | 1.41 | -0.97 | 0.67 | 1.76 | Hasaribagh. | |
| 49 | - | 2.1 | - | 0.19 | 0.49 | 0.38 | +0.11 | 1.17 | 0.59 | 0.81 | 1.21 | -0.40 | 1.34 | 2.01 | Ranchi. | |
| 48 | - | 0.9 | - | 0.07 | 0.04 | 0.22 | -0.25 | 0.00 | 0.03 | 0.28 | 1.38 | -1.10 | 0.50 | 1.73 | Falguni. | |
| 47 | - | 1.0 | - | 1.40 | 0.55 | 0.31 | +0.24 | 1.06 | 0.69 | 1.36 | 1.25 | +0.13 | 2.00 | 1.94 | Manbhum. | |
| 46 | - | 1.1 | - | 0.18 | 0.41 | 0.42 | -0.01 | 0.83 | 0.66 | 0.42 | 1.37 | -0.95 | 0.83 | 2.36 | Singbhum. | |
| 45 | - | 2.4 | - | 0.40 | | | | | | | | | | | Dibrugarh. | |
| 44 | +5 | 7.0 | +4.0 | 0.49 | | | | | | | | | | | Sibsagar. | |
| 43 | - | 2.5 | - | 0.03 | | | | | | | | | | | Tezpur. | |
| 42 | - | 1.4 | - | Nil | | | | | | | | | | | Kamrup. | |
| 41 | 0 | 0.7 | -0.4 | Nil | | | | | | | | | | | Goalpara. | |
| 40 | +4 | 1.6 | -2.2 | 0.09 | | | | | | | | | | | Jorhat. | |
| 39 | - | 1.1 | - | 0.07 | | | | | | | | | | | Khasi and Jaintia Hills. | |
| 38 | - | 1.4 | - | Nil | | | | | | | | | | | | |

(1) Mean (52 days).

Table of Rainfall recorded at stations

[illegible]

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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Table of Rainfall recorded at stations

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to Bengal in November 1902—continued.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 |
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| Station. | District. | Division. | Metereological Division. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Table of Rainfall recorded at stations

[illegible]

in Bengal in November 1902—concluded.

| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | Number of rainy days. | Average number of rainy days. | Total rainfall for the month. | Average rainfall for the month. | Heaviest rain during the month. | Total rainfall from 1st Oct. up to 30th Nov. 1902. | Average rainfall from 1st Oct. to 30th Nov. | Station. | District. | Division. | Meteorological Division. |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|--|---|----------------|-------------------------|------------------|--------------------------|
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.67 | Nil | 0.49 | Nil | 0.69 | 2.02 | Assenboni. | Bonthal Perganas—concl. | Bhagalpur—concl. | BIHAR—concl. |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.57 | Nil | 0.24 | 0.07 | 0.67 | 2.48 | Katikun. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.57 | Nil | 0.24 | 0.05 | 1.05 | 2.04 | Madhupur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.71 | 0.09 | 0.24 | 0.70 | 2.06 | 2.10 | Sarwan. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.71 | 0.70 | 0.20 | 0.70 | 2.06 | 2.10 | Sarwan. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.29 | Nil | 0.21 | Nil | 0.57 | 1.45 | Barkope. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.00 | Nil | 0.00 | Nil | Nil | 0.50 | Barkope. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.57 | Nil | 0.48 | Nil | 0.60 | 1.80 | Mohepur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | 1.08 | ? | Harpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.29 | Nil | 0.19 | Nil | 0.79 | 1.10 | Biharwa. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.14 | Nil | 0.07 | Nil | 0.05 | 0.47 | Sahibganj. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | 0.14 | ? | Barto. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.72 | Nil | 1.60 | Nil | 0.65 | 4.46 | Jagatsingpur. | Outtaek. | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.59 | Nil | 1.48 | Nil | 0.28 | 3.41 | Banki. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.71 | Nil | 1.38 | Nil | 1.07 | 3.72 | Outtaek. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2.45 | 0.27 | 2.79 | 0.22 | 1.24 | 6.55 | False Point. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.83 | Nil | 1.79 | Nil | 2.21 | 4.46 | Kendrapara. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.30 | Nil | 1.08 | Nil | 0.36 | 3.04 | Jajpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.50 | Nil | 1.32 | Nil | 3.02 | 3.02 | Dharmasala. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.40 | Nil | 1.74 | Nil | 0.80 | 3.32 | Salepur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.35 | Nil | 1.48 | Nil | 0.35 | 2.91 | Akhyapada. | Balasore. | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1.79 | 0.31 | 1.85 | 0.31 | 0.62 | 3.08 | Chandbali. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1.58 | 0.39 | 1.17 | 0.39 | 1.27 | 3.24 | Bhadrak. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.39 | Nil | 0.99 | Nil | 2.14 | 3.16 | Soro. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.48 | 0.03 | 1.19 | 0.03 | 1.83 | 3.07 | Balasore. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.98 | Nil | 0.65 | Nil | 0.23 | 1.87 | Jeliasore. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.14 | Nil | 0.81 | Nil | 0.97 | 2.47 | Baripada. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.93 | Nil | 1.22 | Nil | Nil | 2.51 | Anaul. | Angul. | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.90 | Nil | 0.99 | Nil | 2.46 | 2.54 | Rusipara. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.50 | Nil | 0.40 | Nil | Nil | 1.30 | Pal Lahara. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.65 | Nil | 1.08 | Nil | 0.41 | 1.85 | Talchar. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.65 | Nil | 1.15 | Nil | 0.60 | 2.43 | Dhenkanal. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | 0.50 | ? | Baisinga. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1.50 | 0.12 | 1.24 | 0.12 | 1.89 | 3.11 | Baramba. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.60 | Nil | 1.24 | Nil | 1.29 | 2.59 | Narsingpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | 0.43 | ? | Chandipada. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | Nil | ? | Tikarpura. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | 0.50 | ? | Kumarkhole. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2.45 | 0.25 | 2.77 | 0.16 | 0.83 | 7.70 | Puri. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2.03 | ? | 1.77 | ? | ? | 4.48 | Khorda. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 2.18 | 0.45 | 2.14 | 0.37 | 1.63 | 5.16 | Bhanpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 2.31 | 2.73 | 3.77 | 1.92 | 4.26 | 7.02 | Gop. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 2.30 | Nil | 1.97 | Nil | 0.30 | 4.90 | Satpara. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1.63 | 0.22 | 1.51 | 0.75 | 1.24 | 3.77 | Pipli. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.25 | Nil | 1.09 | Nil | 1.03 | 3.34 | Nayagarh. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1.13 | 0.51 | 0.67 | 0.41 | 1.88 | 2.69 | Rampur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ? | 1.63 | ? | 1.20 | 5.37 | ? | Kanas. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.58 | Nil | 0.19 | Nil | 0.61 | 1.43 | Pachamba. | Hazaribagh. | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.65 | 0.05 | 0.30 | 0.05 | 0.60 | 1.46 | (Giridih). | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.91 | 0.08 | 0.17 | 0.08 | 0.05 | 1.43 | Hazaribagh. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.50 | 0.07 | 0.24 | 0.07 | 0.11 | 1.10 | Barhi. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.60 | Nil | 0.33 | Nil | 1.25 | 1.24 | Chatra. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.63 | Nil | 0.65 | Nil | Nil | 1.70 | Kharadiha. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | ? | ? | Nil | ? | ? | Kangur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 0.71 | 0.81 | 0.46 | 0.41 | 1.30 | 1.69 | Lohardaga. | Ranchi. | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.72 | Nil | 0.31 | Nil | 0.20 | 1.34 | Ranchi. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 0.33 | 1.00 | 0.26 | 0.70 | 2.20 | 0.76 | Silt. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.50 | Nil | 0.30 | Nil | Nil | 1.16 | Palot. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | Nil | ? | Bano. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.29 | 0.30 | 0.41 | 0.30 | 0.30 | 1.02 | Tanar. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | ? | ? | Kurdeg. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 1.00 | 0.65 | 0.47 | 0.50 | 0.85 | 1.31 | Champur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1.05 | 1.50 | 0.55 | 1.50 | 1.50 | 1.34 | Sirgaja. | Chota Nagpur. | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.74 | Nil | 0.69 | Nil | Nil | 2.41 | Jashpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.84 | Nil | 0.69 | Nil | Nil | 1.53 | Gangpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.68 | 0.07 | 0.35 | 0.07 | 0.14 | 1.29 | Palamau. | Palamau. | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.47 | Nil | 0.33 | Nil | 0.60 | 1.60 | (Daltonganj). | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.69 | Nil | 0.23 | Nil | Nil | 1.62 | Balunath. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.63 | 0.07 | 0.28 | 0.07 | 0.44 | 1.19 | Husainabad. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ? | 1.01 | ? | 0.32 | 1.01 | ? | Gashwa. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | Nil | ? | Mahadana. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | Nil | ? | Panki. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ? | 0.20 | ? | Nil | 1.20 | ? | Lachar. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ? | 0.33 | ? | 0.13 | 0.33 | ? | Nagarwari. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | 0.09 | ? | 0.09 | 0.16 | ? | Ranka. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 0.74 | 1.40 | 0.24 | 0.95 | 1.00 | 1.22 | Chattarpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.48 | 0.25 | 0.21 | 0.25 | 2.34 | 1.26 | Purulia. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.63 | 0.53 | 0.47 | 0.53 | 0.53 | 0.96 | Gobindpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.81 | 0.70 | 0.53 | 0.80 | 1.3 | 1.31 | Raghunathpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.93 | 0.64 | 0.27 | 0.60 | 0.63 | 1.08 | Bachhabhum. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.50 | 0.15 | 0.32 | 0.10 | 0.95 | 1.13 | Jhilda. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.56 | 0.09 | 0.14 | 0.08 | 1.77 | 1.84 | Chas. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.81 | 0.18 | 0.41 | 0.18 | 0.21 | 1.43 | Pandra. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 1.13 | 0.05 | 0.73 | 0.05 | 0.05 | 1.51 | Chaibassa. | Singbhum. | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 0.76 | 1.97 | 0.68 | 1.85 | 1.97 | 1.57 | Chakradharpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.76 | 0.13 | 0.32 | 0.13 | 0.13 | 0.73 | Ghatania. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.58 | 0.27 | ? | ? | ? | 0.98 | Baharagura. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | 0.50 | Nil | 0.22 | Nil | Nil | 1.30 | Gaukura. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 0.29 | 0.10 | 0.21 | 0.10 | 0.47 | ? | Sanikapur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | Nil | ? | Nil | ? | ? | Monaharpur. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | Nil | ? | 0.03 | ? | 0.03 | 0.96 | ? | Katbari. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ? | ? | ? | ? | ? | ? | Serakilla. | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ? | ? | ? | ? | ? | ? | Kharwan. | | | |
| ... | | | | | | | | | | | | | | | | | | | | |

**SUMMARY OF THE METEOROLOGICAL AND RAINFALL OBSERVATIONS
TAKEN IN BENGAL, AND OF THE METEOROLOGICAL OBSERVA-
TIONS TAKEN IN ASSAM, FOR THE MONTH OF NOVEMBER 1902.**

WEATHER during November was fine and settled over the Province and the north of the Bay, almost continuously. A few showers fell, chiefly in the western districts, during the first week. These showers being in all cases light, the total rainfall for the month was relatively much below what usually falls in November. Chota Nagpur received 91 per cent. of the normal fall, South-West Bengal 48, North Bengal 36 and the other divisions less than 30 per cent.

The cause of the light rainfall during the first week was probably connected with the disturbance which entered Madras at the end of October and caused very heavy rain in North Madras and the Circars. The depression was shallow when it crossed the coast and appeared to become stationary and fill up soon afterwards. But probably a slight residual depression recurved and entered Bengal a few days later causing the prevailing cloud and scattered showers of those days. The heaviest rainfall amounting, on an average, to a third of an inch fell in the south-western districts between the 1st and 4th, and a few light showers in the central and northern districts between the 5th and 7th.

After the slight disturbance of the first week ceased, the usual cold season conditions became established with light northerly winds, cloudless skies and an entire absence of rainfall with the exception of light showers in the Darjeeling hills between the 15th and 17th. The usual oscillations of pressure and temperature occurred; and during a considerable portion of the month pressure was in rather large excess. Owing to that excess in pressure the gradient was steeper than usual over the Province and the Bay, a probable result of which was strongish northerly winds over the north of the Bay and comparatively cool weather inland.

Towards the south of the Bay conditions were almost continuously unsettled, with strong winds and rough sea, but no definite cyclonic disturbance developed. As usually happens under such circumstances rainfall was of almost daily occurrence on the Madras Coast, and at times heavy rain fell, notably between the 17th and 21st.

The only noticeable feature in the east of the Bay was the strong winds at Diamond Island, where velocity was almost continuously above the normal for the season. This was more marked towards the end of the month, when daily average velocity was for several days over 20 miles an hour.

These strong winds in the east and the unsettled weather with rough sea in the south-west of the Bay show that squally weather was probably general over the south of the Bay and more continuous than usual.

Pressure.—The only depression which occurred during November was very slight. Its existence was shown more by the disturbed weather which it caused during the first week than by the pressure differences. The recovery of pressure which was brisk on the 3rd and 6th resulted in a considerable excess over the whole area, but greatest in Bengal Proper, and in consequence there was a steeper gradient over the Bay. This excess slowly increased till the 9th, after which a slow to moderate fall set in and by the 11th the distribution was again normal. From that date till the 16th a small defect was general and then excess again developed and continued up to the end of the month. The greatest excess during the month was .16 inch in parts of Bengal on the 21st.

The average excess for the month was fairly uniform in different parts of the Province. It was about .05 inch except in the west of North Bihar where it was less than .04 inch.

The changes in the north of the bay throughout the month were similar to those at inland stations, though smaller in amount. In the south different conditions prevailed and more than one slight depression moved westward towards the Madras coast with squally weather and heavy rainfall accompanying them. These depressions were so shallow and the increase of wind force so slight that the name of storm is scarcely applicable to them.

Temperature.—Was more generally below than above the normal during the month, but not by large amounts. At the beginning of the month when weather was disturbed over Bengal a small excess was almost general, but after the recovery of pressure and the steeper gradient with northerly winds temperature began falling in the north. The change extended steadily southwards over the Bay between the 5th and 9th. On the latter date mean defect was 4° in Orissa, 2° in Bengal generally, and irregular in amount on the west coast, the greatest being 4° at Nellore. About the middle of the month there was generally a small excess in the western districts and a small defect in the east; and during the latter half general defect except towards the close when higher temperature prevailed with a mean excess of about 2°.

On an average for the month mean temperature was 1°·6 below the normal in Assam and about 1° in East Bengal. In the other divisions the variation was less than half a degree.

Rainfall.—Scattered showers fell during the first week, chiefly in the south-western districts and thereafter it was rainless except for a few very light showers in the Darjeeling hills about the middle of the month.

The total fall was a third of an inch on an average in Orissa, South-West Bengal and Chota Nagpur. In North and East Bengal and Bihar it was not more than a tenth of an inch.

SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 17, 1902. 1905.

As in November cyclonic storms occasionally move into the north of the Bay and from there northward or north-eastward into Bengal Proper and Assam, heavy rainfall occasionally occurs in the southern and eastern districts. The normal rainfall in November is most heavy in Orissa, 1·6 inches, in East Bengal it is 1 inch and in South-West Bengal ·6 inch. As no storm of any importance occurred during the past month the rainfall was everywhere below the normal, the greatest defect being 1·3 inches in East Bengal.

The following table gives in a condensed form the rainfall information for each of the six large meteorological divisions of Bengal for the present year up to the close of November. The numbers there given, as in the case of the former months of the year, are the actual average rainfalls in each division, expressed as a percentage of the normal fall for the period, and the last column also gives the total rainfall up to the close of November, expressed in the same way:—

| METEOROLOGICAL DIVISIONS. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | Actual rainfall of first eleven months of 1902 expressed as a percentage of the normal fall for the period. |
|---------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|---|
| South-West Bengal | Nil | 2 | 166 | 250 | 136 | 57 | 110 | 89 | 104 | 38 | 43 | 85 |
| North Bengal | 11 | 2 | 261 | 154 | 112 | 108 | 112 | 123 | 162 | 74 | 36 | 122 |
| East Bengal | Nil | 1 | 85 | 308 | 127 | 131 | 129 | 92 | 111 | 68 | 6 | 120 |
| Bihar | 13 | 4 | 263 | 177 | 99 | 60 | 111 | 71 | 144 | 44 | 28 | 94 |
| Orissa | 104 | 1 | 97 | 218 | 82 | 58 | 169 | 102 | 70 | 19 | 20 | 91 |
| Chota Nagpur | 91 | 41 | 82 | 116 | 116 | 33 | 111 | 59 | 143 | 22 | 91 | 83 |

The following table gives the summary of the temperature and rainfall data of each of the seven meteorological divisions of the Province for the month of November 1902:—

| METEOROLOGICAL DIVISIONS. | TEMPERATURE | | | | | | | RAINFALL— | | | | | | |
|---------------------------|--------------------------------|-------------------------------|-------------------------|------------------------|----------------------|--|-----------|-----------------|------------|--------------------------|---------------------------------|------------|--------------------------|-----------------|
| | Highest observed during month. | Lowest observed during month. | Averages for month. | | | Average mean of month above or below normal mean of month. | Of month. | | | Rainy days | | | Since 16th October 1902. | |
| | | | Of highest of each day. | Of lowest of each day. | Of mean of each day. | | Average. | Normal average. | Variation. | Average number in month. | Normal average number in month. | Variation. | Average. | Normal average. |
| | | | | | | | | | | | | | | |
| South-West Bengal | 90·3 | 53·5 | 83·5 | 62·8 | 73·2 | +0·1 | 0·31 | 0·64 | —0·33 | 0·63 | 0·81 | —0·18 | 0·81 | 2·16 |
| North Bengal | 86·3 | 53·5 | 81·2 | 61·2 | 71·3 | —0·3 | 0·10 | 0·28 | —0·18 | 0·28 | 0·49 | —0·21 | 0·53 | 1·67 |
| East Bengal | 86·5 | 54·0 | 62·9 | 63·0 | 73·0 | —0·8 | 0·06 | 1·01 | —0·95 | 0·22 | 1·21 | —0·99 | 0·17 | 3·43 |
| Bihar | 88·0 | 51·1 | 62·0 | 59·0 | 70·0 | —0·2 | 0·05 | 0·18 | —0·13 | 0·14 | 0·31 | —0·17 | 0·49 | 1·15 |
| Orissa | 93·4 | 53·5 | 64·5 | 64·6 | 74·6 | —0·6 | 0·33 | 1·62 | —1·29 | 0·60 | 1·08 | —1·08 | 1·27 | 4·02 |
| Chota Nagpur* | 89·3 | 45·2 | 60·5 | 57·2 | 68·9 | +0·1 | 0·32 | 0·35 | —0·03 | 0·63 | 0·61 | +0·02 | 0·68 | 1·33 |
| Assam | 89·5 | 49·9 | 79·8 | 59·0 | 62·4 | —1·0 | | | | | | | | |

* Purulia not included.

METEOROLOGICAL OFFICE, BENGAL,
The 16th December 1902.

C. LITTLE,
Meteorological Reporter to the Govt. of Bengal.

Vital Statistics of the districts of Bengal for the month of October 1902.

[illegible]

B. H. DEARE, CAPTAIN, I.M.S.,
Offg. Sanitary Commissioner for Bengal.

OFFICE OF SANITARY COMMISSIONER FOR BENGAL,
The 13th December 1902.

IRRIGATION DEPARTMENT, BENGAL.

Statement showing heights over mean sea-level and low water in the rivers Ganges, Bhagirathi, Jalangi, and Brahmaputra for the month of October 1902, and the highest reading of each gauge over M. S. L. since 1876.

| Date. | RIVER GANGES. | | | | | | | | | | RIVER BRAHMAPUTRA. | | | | | | | | | | | | |
|-------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | Mitrapora. | Barua. | Disapore. | Monghyr. | Sahibganj. | Rampur Soalia. | Goskando. | Berhampore. | Barapganj. | River Jalangi. | RIVER BRAHMAPUTRA. | | | | | | | | | | | | |
| | Height over mean sea-level. | Height over mean sea-level. | Height over mean sea-level. | Height over mean sea-level. | Height over mean sea-level. | Height over mean sea-level. | Height over mean sea-level. | Height over mean sea-level. | Height over mean sea-level. | Height over mean sea-level. | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 1st | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 2nd | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 3rd | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 4th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 5th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 6th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 7th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 8th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 9th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 10th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 11th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 12th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 13th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 14th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 15th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 16th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 17th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 18th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 19th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 20th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 21st | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 22nd | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 23rd | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 24th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 25th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 26th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 27th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 28th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 29th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 30th | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |
| 31st | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 | 17.50 |

CALCUTTA,
The 16th December 1902.

R. O. ENGE,
Under-Secy. to the Govt. of Bengal.

IRRIGATION DEPARTMENT, BENGAL.

Abstract statement showing Tollage on Canals in Bengal classed as Major Works for the month of October 1902, as compared with that of the corresponding month of the previous year.

| CANALS. | TOLLAGE, 1902-1903. | | TOLLAGE, 1901-1902. | |
|------------------------------|---------------------|----------------------|---------------------|----------------------|
| | During the month. | To end of the month. | During the month. | To end of the month. |
| 1 | 2 | 3 | 4 | 5 |
| <i>Orissa Circle.</i> | Rs. A. P. | Rs. A. P. | Rs. A. P. | Rs. A. P. |
| Taldanda Canal System | 845 15 6 | 7,736 6 5 | 879 1 3 | 6,159 13 5 |
| Kendrapara ditto | 2,918 12 3 | 18,318 7 11 | 4,306 14 8 | 28,694 15 8 |
| High Level, Range I | 643 10 9 | 4,833 15 9 | 630 5 6 | 5,047 7 3 |
| Ditto, " II | 196 7 10 | 992 4 7 | 126 3 7 | 944 0 1 |
| Ditto, " III | 28 10 0 | 154 12 9 | 16 1 0 | 174 13 6 |
| Jajpur Canal | 31 7 9 | 281 7 9 | 43 11 6 | 201 4 3 |
| Total Orissa Circle | 4,665 0 1 | 32,317 7 2 | 6,002 5 1 | 41,222 6 2 |
| <i>South-Western Circle.</i> | | | | |
| Midnapore Canal | 4,777 14 3 | 44,253 1 3 | 6,929 1 0 | 51,954 3 6 |
| Hijili Tidal Canal | 2,776 12 3 | 26,214 9 6 | 3,167 3 6 | 29,564 7 9 |
| Total South-Western Circle | 7,554 10 6 | 70,467 10 9 | 10,096 4 6 | 81,518 11 3 |
| <i>Sone Circle.</i> | | | | |
| Patna Canal System | 533 1 9 | 4,811 6 11 | 672 0 3 | 8,795 3 6 |
| Arrah ditto | 282 5 0 | 3,889 0 9 | 417 0 6 | 5,834 7 0 |
| Buxar ditto | 221 5 6 | 1,682 5 6 | 199 5 6 | 1,770 12 3 |
| Total Sone Circle | 1,036 12 3 | 10,382 13 2 | 1,288 6 3 | 15,900 6 9 |
| GRAND TOTAL | 13,256 5 10 | 1,13,167 15 1 | 17,386 15 10 | 1,38,641 8 2 |

CALCUTTA,
The 16th December 1902.

R. C. EDGE,
Under-Secy. to the Govt. of Bengal.

IRRIGATION DEPARTMENT, BENGAL.

Abstract Statement showing Tollage on Canals in Bengal classed as Minor Works and Navigation for the month of October 1902, as compared with that of the corresponding month of the previous year.

| CANALS. | TOLLAGE, 1902-1903. | | TOLLAGE, 1901-1902. | |
|-----------------------------|---------------------|----------------------|---------------------|----------------------|
| | During the month. | To end of the month. | During the month. | To end of the month. |
| 1 | 2 | 3 | 4 | 5 |
| | Rs. A. P. | Rs. A. P. | Rs. A. P. | Rs. A. P. |
| Calcutta and Eastern Canals | 25,078 3 6 | 1,26,124 7 3 | 31,083 2 9 | 1,24,124 0 6 |
| Tolly's Nala | 5,582 3 9 | 32,222 4 0 | 5,894 13 0 | 32,105 11 0 |
| Total | 30,660 7 3 | 1,58,346 11 3 | 36,977 15 9 | 1,56,229 11 6 |
| Orissa Coast Canal | 2,165 4 9 | 15,045 11 0 | 3,070 7 6 | 23,611 0 9 |
| Nadia Rivers | 11,352 9 3 | 60,599 4 10 | 10,691 10 0 | 60,327 6 0 |
| GRAND TOTAL | 44,178 5 3 | 2,33,991 11 1 | 50,740 1 3 | 2,40,168 2 3 |

CALCUTTA,
The 16th December 1902.

R. C. EDGE,
Under-Secy. to the Govt. of Bengal.

GOVERNMENT OF BENGAL, IRRIGATION DEPARTMENT.

Approximate Return of Traffic on the Circular and Eastern Canals for the week ending Saturday, the 13th December 1902, as compared with the corresponding week of the previous year.

| NATURE OF CARGO. | WEEK ENDING SATURDAY, THE 13TH DECEMBER 1902. | | | WEEK ENDING SATURDAY, THE 14TH DECEMBER 1901. | | |
|------------------|---|------------------|----------|---|------------------|----------|
| | Number of boats. | Weight of cargo. | Tollage. | Number of boats. | Weight of cargo. | Tollage. |
| | | Mds. | Rs. | | Mds. | Rs. |
| Rice and paddy | 557 | 65,025 | 1,000 | 626 | 43,336 | 581 |
| Jute | 248 | 1,05,675* | 1,633 | 508 | 1,59,275† | 2,551 |
| Firewood | 70 | 45,300 | 686 | 48 | 29,225 | 448 |
| Other articles | 488 | 1,35,990 | 1,866 | 639 | 1,39,975 | 2,007 |
| Total | 1,363 | 3,51,990 | 5,184 | 1,821 | 3,71,810 | 5,557 |

* Weight by canal measurement, 1,01,397 maunds.
† Ditto ditto, 1,59,967 ..

GOVERNMENT OF BENGAL, IRRIGATION DEPARTMENT.

Approximate Return of Traffic on the Circular and Eastern Canals for the week ending Saturday, the 6th December 1902, as compared with the corresponding week of the previous year.

| NATURE OF CARGO. | WEEK ENDING SATURDAY, THE 6TH DECEMBER 1902. | | | WEEK ENDING SATURDAY, THE 7TH DECEMBER 1901. | | |
|------------------|--|------------------|----------|--|------------------|----------|
| | Number of boats. | Weight of cargo. | Tollage. | Number of boats. | Weight of cargo. | Tollage. |
| | | Mds. | Rs. | | Mds. | Rs. |
| Rice and paddy | 403 | 39,625 | 655 | 355 | 38,575 | 519 |
| Jute | 317 | 85,925* | 1,344 | 680 | 1,94,795† | 3,077 |
| Firewood | 57 | 51,375 | 772 | 77 | 62,725 | 949 |
| Other articles | 533 | 1,55,275 | 2,002 | 603 | 1,41,115 | 1,948 |
| Total | 1,310 | 3,33,200 | 4,673 | 1,615 | 4,37,210 | 6,493 |

* Weight by canal measurement, 80,000 maunds.
† Ditto ditto, 1,80,074 ..

EAST INDIAN RAILWAY.

Statement of Goods Traffic in staples carried during the four weeks ending 27th September 1902 as compared with the same period of 1901.

| STAPLES. | 1901. | | 1902. | | INCREASE. | | DECREASE. | |
|--|-------------|-----------|-------------|-----------|-----------|----------|-----------|----------|
| | Weight. | Freight. | Weight. | Freight. | Weight. | Freight. | Weight. | Freight. |
| | Mds. | Rs. | Mds. | Rs. | Mds. | Rs. | Mds. | Rs. |
| Apparel, including drapery, haberdashery, millinery, uniforms, accoutrements, boots and shoes | 7,034 | 8,865 | 7,827 | 8,412 | 793 | ..... | ..... | 453 |
| Coal and coke carried for the public and Indian railways | 1,09,53,018 | 15,05,529 | 1,03,91,305 | 12,22,008 | ..... | ..... | 5,67,293 | 3,43,526 |
| Cotton— | | | | | | | | |
| (1) Raw | 52,078 | 39,565 | 22,472 | 14,007 | ..... | ..... | 30,206 | 24,858 |
| (2) Manufactured— | | | | | | | | |
| (a) Twist and Yarn, European | 5,428 | 5,127 | 2,160 | 2,748 | ..... | ..... | 3,268 | 2,379 |
| (b) Ditto, Indian | 39,088 | 13,626 | 40,776 | 14,008 | 1,688 | 412 | ..... | ..... |
| (c) Piece-goods, European | 1,07,738 | 1,07,345 | 1,24,709 | 1,11,077 | 16,971 | 3,432 | ..... | ..... |
| (d) Ditto, Indian | 15,875 | 10,530 | 15,048 | 7,520 | ..... | ..... | 2,227 | 3,010 |
| (e) Others | 2,233 | 1,822 | 4,317 | 3,152 | 1,904 | 1,330 | ..... | ..... |
| Chemicals excepting saltpetre | 7,404 | 6,108 | 5,313 | 4,958 | ..... | ..... | 2,091 | 1,340 |
| Drugs— | | | | | | | | |
| 1.—Intoxicating, other than opium | 123 | 49 | 298 | 230 | 172 | 170 | ..... | ..... |
| 2.—Non-intoxicating | 8,063 | 6,187 | 5,195 | 3,096 | ..... | ..... | 2,868 | 1,191 |
| Dyes and Tans— | | | | | | | | |
| 1.—Al (Morinda citrifolia) | 151 | 19 | 356 | 59 | 205 | 40 | ..... | ..... |
| 2.—Alizarine and aniline dyes | 101 | 473 | 42 | 201 | 311 | ..... | ..... | ..... |
| 3.—Cutch | 3,089 | 1,307 | 3,200 | 1,049 | 101 | ..... | ..... | 212 |
| 4.—Indigo | 350 | 175 | 138 | 230 | ..... | 134 | 153 | 318 |
| 5.—Myrabolans | 5,441 | 1,091 | 4,201 | 829 | ..... | ..... | 1,240 | 702 |
| 6.—Tanning barks | 136 | 10 | 382 | 57 | 247 | 41 | ..... | ..... |
| 7.—Turmeric | 6,975 | 4,473 | 5,108 | 3,570 | ..... | ..... | 1,872 | 897 |
| 8.—Others | 2,995 | 1,514 | 2,289 | 2,391 | 6,804 | 877 | ..... | ..... |
| Foodstuffs— | | | | | | | | |
| 1.—Oilcake | 75,023 | 7,241 | 56,429 | 9,026 | ..... | 1,745 | 18,594 | ..... |
| 2.—Hay, straw and grass | 24,139 | 2,331 | 16,763 | 2,595 | ..... | 267 | 7,374 | ..... |
| Fruits and vegetables, fresh | 5,227 | 2,969 | 7,716 | 3,057 | 2,489 | 88 | ..... | ..... |
| Grain and Pulse— | | | | | | | | |
| 1.—Wheat | 4,73,239 | 1,10,640 | 6,02,021 | 1,44,717 | 1,28,782 | 25,071 | ..... | ..... |
| 2.—Wheat flour | 64,325 | 14,127 | 65,228 | 13,500 | 900 | ..... | ..... | 621 |
| 3.—Rice in the husk | 1,44,173 | 17,021 | 63,703 | 3,008 | ..... | ..... | 80,470 | 7,004 |
| 4.—Rice not in the husk | 4,08,619 | 73,013 | 2,42,970 | 41,723 | ..... | ..... | 1,65,645 | 31,294 |
| 5.—Jowar and bajra | 36,610 | 7,233 | 17,640 | 3,304 | ..... | ..... | 18,970 | 3,892 |
| 6.—Gram and pulse | 5,01,983 | 1,34,747 | 4,73,512 | 1,16,591 | ..... | ..... | 28,451 | 22,206 |
| 7.—Others | 1,25,774 | 25,390 | 82,343 | 12,240 | ..... | ..... | 43,431 | 13,129 |
| Hides and Skins— | | | | | | | | |
| 1.—Hides of cattle | 22,352 | 9,079 | 28,325 | 13,044 | 5,973 | 3,413 | ..... | ..... |
| 2.—Skins of sheep, &c. | 21,372 | 12,110 | 15,064 | 7,379 | ..... | ..... | 6,308 | 4,731 |
| Horns | 2,357 | 485 | 804 | 309 | ..... | ..... | 1,553 | 676 |
| Hemp (Indian) and other fibres (excluding jute) | 7,908 | 1,308 | 5,616 | 1,003 | ..... | ..... | 2,292 | 300 |
| Jute— | | | | | | | | |
| 1.—Raw | 1,09,554 | 37,454 | 3,24,494 | 47,089 | 1,54,940 | 19,635 | ..... | ..... |
| 2.—Gunny-bags and cloth | 62,427 | 30,434 | 42,254 | 19,238 | ..... | ..... | 20,688 | 11,190 |
| Lac | 43,102 | 21,500 | 29,013 | 10,118 | ..... | ..... | 14,089 | 2,382 |
| Leather— | | | | | | | | |
| 1.—Unwrought | 3,190 | 4,848 | 2,510 | 3,120 | ..... | ..... | 880 | 1,239 |
| 2.—Wrought excepting boots and shoes | 1,197 | 1,423 | 1,020 | 993 | ..... | ..... | 177 | 430 |
| Liquors— | | | | | | | | |
| 1.—Ale and Beer | 10,153 | 4,372 | 15,088 | 4,960 | 4,935 | 578 | ..... | ..... |
| 2.—Spirits of all kinds, including country spirit | 1,262 | 1,443 | 1,707 | 1,601 | 445 | 158 | ..... | ..... |
| 3.—Wines | 1,879 | 2,000 | 2,769 | 3,040 | 890 | 140 | ..... | ..... |
| 4.—All other spirits, including toddy and fermented liquor, other than ale and beer | 136 | 71 | 67 | 11 | ..... | ..... | 69 | 60 |
| Metals— | | | | | | | | |
| 1.—Brass, unwrought | 2,295 | 1,020 | 1,278 | 604 | ..... | ..... | 1,017 | 416 |
| 2.—Do., wrought | 8,195 | 2,877 | 20,237 | 6,918 | 12,042 | 4,041 | ..... | ..... |
| 3.—Copper, unwrought | 111 | 34 | 1,847 | 2,317 | 1,736 | 2,206 | ..... | ..... |
| 4.—Do., wrought | 1,131 | 644 | 2,003 | 2,002 | 932 | 1,418 | ..... | ..... |
| 5.—Iron and steel— | | | | | | | | |
| (a) Cast | 20,054 | 15,556 | 39,035 | 24,401 | 18,981 | 8,540 | ..... | ..... |
| (b) Unwrought | 674 | 370 | 35,496 | 1,907 | 34,732 | 1,067 | ..... | ..... |
| (c) Wrought | 41,288 | 18,573 | 61,435 | 30,071 | 40,147 | 12,398 | ..... | ..... |
| (d) Manufactures of iron and steel | 13,875 | 6,947 | 26,797 | 12,015 | 12,922 | 6,386 | ..... | ..... |
| 6.—Zinc and spelter | 2,002 | 1,107 | 4,228 | 3,014 | 2,226 | 1,907 | ..... | ..... |
| 7.—Others | 3,965 | 3,384 | 8,352 | 5,845 | 4,387 | 2,451 | ..... | ..... |
| Oils— | | | | | | | | |
| 1.—Kerosine | 1,22,534 | 38,954 | 1,33,077 | 46,690 | 10,545 | 7,736 | ..... | ..... |
| 2.—Castor | 1,030 | 308 | 4,041 | 1,500 | 3,011 | 1,192 | ..... | ..... |
| 3.—Cocconut | 784 | 343 | 5,195 | 1,769 | 4,411 | 1,440 | ..... | ..... |
| 4.—Mustard and rape | 2,056 | 1,185 | 6,800 | 1,337 | 4,744 | 352 | ..... | ..... |
| 5.—Others | 6,567 | 3,130 | 5,020 | 2,225 | ..... | ..... | 1,547 | 905 |
| Oilseeds— | | | | | | | | |
| 1.—Castor | 47,218 | 11,088 | 50,611 | 11,543 | 12,393 | 457 | ..... | ..... |
| 2.—Earthnuts | 40 | 15 | 10 | 3 | ..... | ..... | 30 | 12 |
| 3.—Linseed | 2,32,597 | 56,320 | 2,04,994 | 58,298 | ..... | 1,978 | 27,003 | ..... |
| 4.—Poppy | 38,721 | 10,012 | 20,953 | 6,012 | ..... | ..... | 11,768 | 3,100 |
| 5.—Rape and mustard | 2,94,354 | 98,583 | 2,32,214 | 63,789 | ..... | ..... | 62,140 | 44,854 |
| 6.—Til or linjil | 1,414 | 1,223 | 2,230 | 433 | ..... | ..... | 5,184 | 850 |
| 7.—Others | 57,330 | 15,234 | 11,997 | 2,585 | ..... | ..... | 45,333 | 13,649 |
| Opium | 483 | 438 | 977 | 739 | 494 | 301 | ..... | ..... |
| Paper and pasteboard | 18,009 | 9,940 | 15,884 | 7,318 | ..... | ..... | 2,215 | 1,722 |
| Provisions— | | | | | | | | |
| 1.—Dried fruits and nuts | 21,105 | 6,208 | 5,090 | 4,377 | ..... | ..... | 10,006 | 3,631 |
| 2.—Ghee | 29,004 | 20,918 | 40,308 | 32,326 | 20,604 | 11,448 | ..... | ..... |
| 3.—Potatoes | 47,524 | 22,292 | 33,941 | 33,249 | 15,317 | 10,957 | ..... | ..... |
| 4.—Others | 27,044 | 10,729 | 20,163 | 12,148 | 1,510 | ..... | ..... | ..... |
| Railway plant & rolling-stock carried for the public & foreign railways— | | | | | | | | |
| 1.—Locomotives, engines and tenders and parts thereof | 12,701 | 7,307 | 1,001 | 94 | ..... | ..... | 11,693 | 7,413 |
| 2.—Carriages and trucks and parts thereof | 5,463 | 3,619 | 15,012 | 4,728 | 9,540 | 2,109 | ..... | ..... |
| 3.—Materials— | | | | | | | | |
| (a) Steel rails and fish-plates | 18,437 | 8,173 | 56,479 | 17,403 | 38,042 | 9,230 | ..... | ..... |
| (b) Sleepers and keys of steel and cast-iron ... .. | ..... | ..... | 1,037 | 219 | 1,657 | 219 | ..... | ..... |
| (c) Other sorts | 88,325 | 5,430 | 1,41,135 | 33,025 | 55,810 | 24,595 | ..... | ..... |
| Salt | 3,25,499 | 70,931 | 2,06,780 | 60,840 | ..... | ..... | 26,806 | 10,091 |

| STAPLES. | 1901. | | 1902. | | INCREASE. | | DECREASE. | |
|---|--------------------|------------------|--------------------|------------------|------------------|---------------|-----------------|-----------------|
| | Weight. | Freight. | Weight. | Freight. | Weight. | Freight. | Weight. | Freight. |
| | Mds. | Rs. | Mds. | Rs. | Mds. | Rs. | Mds. | Rs. |
| <i>Salt-petre and other saline substances—</i> | | | | | | | | |
| 1.—Salt-petre | 30,150 | 12,140 | 45,379 | 15,291 | 15,229 | 3,151 | ..... | ..... |
| 2.—Other saline substances | 23,095 | 4,805 | 28,908 | 5,307 | 5,805 | 3,502 | ..... | ..... |
| <i>Silk—</i> | | | | | | | | |
| 1.—Raw— | | | | | | | | |
| (a) Foreign | 9 | 9 | 5 | 16 | ..... | 7 | 4 | ..... |
| (b) Indian | 1,083 | 813 | 818 | 244 | ..... | ..... | 215 | 569° |
| 2.—Piece-goods— | | | | | | | | |
| (a) Foreign | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| (b) Indian | 171 | 202 | 81 | 73 | ..... | ..... | 140 | 219 |
| <i>Spices—</i> | | | | | | | | |
| 1.—Nutmegs | 30,904 | 16,326 | 10,334 | 12,265 | ..... | ..... | 1,570 | 4,081 |
| 2.—Cardamoms | 757 | 768 | 580 | 581 | ..... | ..... | 177 | 187 |
| 3.—Chillies | 5,100 | 3,547 | 6,234 | 2,455 | 1,074 | ..... | ..... | 1,092 |
| 4.—Ginger | 988 | 427 | 1,210 | 320 | 230 | ..... | ..... | 107 |
| 5.—Pepper | 2,017 | 1,744 | 1,225 | 1,185 | ..... | ..... | 792 | 509 |
| 6.—Others | 10,362 | 12,370 | 13,525 | 5,185 | 3,163 | ..... | ..... | 7,185 |
| Stone and lime | 8,09,281 | 20,140 | 3,15,574 | 58,569 | 6,313 | 31,080 | ..... | ..... |
| <i>Sugar—</i> | | | | | | | | |
| 1.—Refined | 22,942 | 5,076 | 42,304 | 13,085 | 19,362 | 8,109 | ..... | ..... |
| 2.—Unrefined— | | | | | | | | |
| (a) Sugar | 87,591 | 27,463 | 75,347 | 17,430 | ..... | ..... | 12,244 | 10,033 |
| (b) Grs. ref., jaggery, molasses and other saccharine produce | 88,636 | 10,809 | 66,831 | 7,687 | ..... | ..... | 21,805 | 3,122 |
| <i>Tea—</i> | | | | | | | | |
| 1.—Foreign | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 2.—Indian | 2,875 | 1,700 | 3,589 | 1,609 | ..... | ..... | 276 | 160 |
| Tobacco | 40,523 | 15,794 | 40,337 | 15,873 | ..... | 79 | 240 | ..... |
| <i>Wood—</i> | | | | | | | | |
| 1.—Timber, unwrought | 96,980 | 12,041 | 78,829 | 11,322 | ..... | ..... | 23,151 | 1,810 |
| 2.—Manufactures | 11,915 | 5,205 | 12,430 | 3,185 | 515 | ..... | ..... | 2,019 |
| <i>Wool—</i> | | | | | | | | |
| 1.—Raw | 1,011 | 989 | 1,732 | 1,318 | 121 | 338 | ..... | ..... |
| 2.—Manufactured— | | | | | | | | |
| (a) Carpets and rugs | 944 | 1,342 | 843 | 1,727 | ..... | 445 | 101 | ..... |
| (b) Piece-goods, European | 3 | 7 | 1,556 | 202 | 1,553 | 195 | ..... | ..... |
| (c) Ditto, Indian | 1,235 | 1,433 | 1,627 | 2,788 | 392 | 1,345 | ..... | ..... |
| (d) Other sorts of manufactures | 3,253 | 4,540 | 2,003 | 1,754 | ..... | ..... | 1,250 | 2,788 |
| <i>All other articles of merchandise—</i> | | | | | | | | |
| 1.—Honey | 5,807 | 1,378 | 24,550 | 5,116 | 19,043 | 3,738 | ..... | ..... |
| 2.—Firewood | 8,692 | 844 | 24,271 | 2,220 | 15,679 | 1,356 | ..... | ..... |
| 3.—Indigo seed | 8,128 | 3,223 | 3,400 | 1,049 | ..... | ..... | 4,728 | 2,176 |
| 4.—Paints and colours | 2,410 | 1,420 | 984 | 743 | ..... | ..... | 1,426 | 758 |
| 5.—Seeds other than oilseeds | 26,611 | 5,851 | 1,630 | 423 | ..... | ..... | 24,981 | 5,428 |
| 6.—Others | 10,17,667 | 5,05,684 | 16,12,701 | 3,32,839 | 4,95,024 | 27,250 | ..... | ..... |
| Total | 1,67,64,998 | 36,40,099 | 1,66,50,525 | 28,68,213 | ..... | ..... | 1,04,413 | 3,61,886 |
| <i>Military stores</i> | <i>17,920</i> | <i>55,713</i> | <i>15,901</i> | <i>25,012</i> | <i>.....</i> | <i>.....</i> | <i>2,019</i> | <i>30,701</i> |
| <i>Coal for railway</i> | <i>17,41,067</i> | <i>1,20,394</i> | <i>19,10,069</i> | <i>90,120</i> | <i>.....</i> | <i>.....</i> | <i>5,31,068</i> | <i>21,265</i> |
| <i>Railway materials</i> | <i>17,00,985</i> | <i>54,818</i> | <i>34,40,475</i> | <i>74,675</i> | <i>17,33,520</i> | <i>19,857</i> | <i>.....</i> | <i>.....</i> |
| <i>Livestock</i> | <i>.....</i> | <i>16,785</i> | <i>.....</i> | <i>16,188</i> | <i>.....</i> | <i>.....</i> | <i>.....</i> | <i>667</i> |
| Total | 2,02,20,940 | 34,87,759 | 2,13,16,970 | 31,03,197 | 10,96,030 | ..... | ..... | 3,54,563 |

T. JACKSON, for Acting Chief Auditor.

TRAFFIC AUDIT OFFICE, GOODS DIVISION, CALCUTTA, the 15th December 1902.

EASTERN BENGAL STATE RAILWAY.

Abstract of Principal Commodities carried over the Eastern Bengal State Railway during the month of August 1902 as compared with the same month of the previous year.

| No. | STAPLES. | 1902. | 1901. | Increase in 1902. | Decrease in 1902. | EXPLANATIONS OF FLUCTUATIONS BY TRAFFIC SUPERINTENDENT. |
|-----|--|--------|--------|-------------------------|-------------------------|--|
| | | Tons. | Tons. | Tons. | Tons. | |
| 1 | Apparel, including drapery, haberdashery, millinery, uniforms, accoutrements, boots and shoes. | 19 | 11 | 8 | ..... |  |
| 2 | Coal and coke carried for the Public and Foreign Railways. | 24,000 | 17,803 | 6,200 | ..... |  |
| 3 | Cotton— | | | | | |
| | (1) Raw | 105 | 86 | 40 | ..... |  |
| | (2) Manufactured— | | | | | |
| | (a) Twist and yarn, European | 230 | 247 | ..... | 27 | |
| | (b) Ditto, Indian | 473 | 243 | ..... | ..... |  |
| | (c) Piece-goods, European | 1,148 | 1,276 | ..... | 127 | |
| | (d) Ditto, Indian | 23 | 16 | ..... | 6 | |
| | (e) Others ..... | ..... | ..... | ..... | ..... |  |
| 4 | Chemicals, excepting saltpetre | 26 | 14 | 12 | ..... |  |
| 5 | Drugs— | | | | | |
| | (1) Intoxicating, other than opium | 23 | 5 | 18 | ..... |  |
| | (2) Non-intoxicating— | | | | | |
| | (a) Medicinal preparations | 41 | 51 | ..... | 10 | |
| | (b) Others ..... | ..... | ..... | ..... | ..... |  |
| 6 | Dyes and Tans— | | | | | |
| | (1) Al (Morinda citrifolia) ..... | ..... | ..... | ..... | ..... |  |
| | (2) Alizarine and Aniline dyes | 24 | 20 | 4 | ..... |  |
| | (3) Catch ..... | ..... | ..... | ..... | ..... |  |
| | (4) Indigo ..... | ..... | ..... | ..... | ..... |  |
| | (5) Myrabolams ..... | ..... | ..... | ..... | ..... |  |
| | (6) Tanning barks | 103 | 147 | ..... | 44 | |
| | (7) Turmeric | 24 | 3 | 21 | ..... |  |
| | (8) Others ..... | ..... | ..... | ..... | ..... |  |
| 7 | Fodder— | | | | | |
| | (1) Oilcake | 427 | 500 | ..... | 73 | |
| | (2) Hay, straw and grass | 1,208 | 1,730 | ..... | 521 | |
| 8 | Fruits and vegetables, fresh | 86 | 108 | ..... | 112 | |
| 9 | Grain and pulse— | | | | | |
| | (1) Gram and pulses | 2,073 | 2,154 | ..... | 81 | |
| | (2) Jawar and bajra | 1,000 | 1,747 | ..... | 747 | |
| | (3) Rice in the husk | 3,479 | 3,206 | ..... | 273 | |
| | (4) Do. not in the husk | 88 | 239 | ..... | 151 | |
| | (5) Wheat | 172 | 144 | ..... | 28 | |
| | (6) Do. flour | 83 | 44 | 39 | ..... |  |
| | (7) Others ..... | ..... | ..... | ..... | ..... |  |
| 10 | Hides and skins— | | | | | |
| | (1) Hides of cattle— | | | | | |
| | (a) Dressed or tanned | 417 | 401 | ..... | 16 | |
| | (b) Raw ..... | ..... | ..... | ..... | ..... |  |
| | (2) Skins of sheep and other animals— | | | | | |
| | (a) Dressed or tanned | 68 | 59 | ..... | 9 | |
| | (b) Raw | 12 | 10 | ..... | 2 | |
| 11 | Horns ..... | ..... | 11 | ..... | 11 | |
| 12 | Hemp (Indian) and other fibres, excluding jute. | ..... | ..... | ..... | ..... |  |
| 13 | Jute— | | | | | |
| | (1) Raw | 71,351 | 66,060 | 5,291 | ..... |  |
| | (2) Gunny-bags and cloth | 577 | 481 | 96 | ..... |  |
| 14 | Leather— | | | | | |
| | (1) Unwrought | 47 | 47 | ..... | ..... |  |
| | (2) Wrought, excepting boots and shoes ..... | ..... | ..... | ..... | ..... |  |
| 15 | Liquors— | | | | | |
| | (1) Ale and beer | 15 | 23 | ..... | 8 | |
| | (2) Spirits of all kinds, including country spirit ..... | ..... | ..... | ..... | ..... |  |
| | (3) Wine | 56 | 53 | ..... | 3 | |
| | (4) All other sorts, including toddy and fermented liquor, other than ale and beer. | ..... | ..... | ..... | ..... |  |
| 16 | Metals— | | | | | |
| | (1) Brass, unwrought | 19 | 24 | ..... | 5 | |
| | (2) Do., wrought | 183 | 126 | ..... | 57 | |
| | (3) Copper, unwrought | 13 | 18 | ..... | 5 | |
| | (4) Do., wrought | 8 | 10 | ..... | 2 | |
| | (5) Iron and steel— | | | | | |
| | (a) Cast | 20 | 56 | ..... | 36 | |
| | (b) Unwrought ..... | ..... | ..... | ..... | ..... |  |
| | (c) Wrought | 617 | 701 | ..... | 84 | |
| | (d) Manufactures | 164 | 223 | ..... | 119 | |
| | (e) Others | 101 | 76 | ..... | 25 | |
| 17 | Oils— | | | | | |
| | (1) Kerosine | 3,522 | 5,040 | ..... | ..... |  |
| | (2) Castor | 7 | 7 | ..... | ..... |  |
| | (3) Coconut | 119 | 142 | ..... | 23 | |
| | (4) Mustard and rape | 180 | 202 | ..... | 22 | |
| | (5) Others | 24 | 40 | ..... | 16 | |
| 18 | Oilseeds— | | | | | |
| | (1) Castor | 57 | ..... | ..... | ..... |  |
| | (2) Barthnuts | 750 | 1,267 | ..... | 517 | |
| | (3) Linseed ..... | ..... | ..... | ..... | ..... |  |
| | (4) Poppy | 1,571 | 929 | ..... | 642 | |
| | (5) Rape and mustard | 6 | 71 | ..... | 65 | |
| | (6) Til or jujill | 11 | 8 | ..... | 3 | |
| | (7) Others ..... | ..... | ..... | ..... | ..... |  |
| 19 | Opium | 458 | 405 | ..... | 53 | |
| 20 | Paper and pasteboard ..... | ..... | ..... | ..... | ..... |  |
| 21 | Provisions— | | | | | |
| | (1) Dried fruits and nuts | 23 | 23 | ..... | ..... |  |
| | (2) Ghee | 63 | 39 | ..... | 24 | |
| | (3) Others | 745 | 711 | ..... | 34 | |

1914 SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 17, 1902.

| No. | STAPLES. | 1902. | 1901. | Increase in 1902. | Decrease in 1902. | EXPLANATIONS OF FLUCTUATIONS TRAFFIC SUPERINTENDENT. |
|-----|--|---------|---------|-------------------------|-------------------------|---|
| | | Tons. | Tons. | Tons. | Tons. | |
| 23 | Railway Plant, &c., for the Public and Foreign Railways— | | | | | |
| | (1) Locomotive engines and tenders and parts thereof. | 52 | 176 | ..... | 124 | |
| | (2) Carriages and trucks and parts thereof | 4 | 1 | 3 | ..... |  |
| | (3) Materials— | | | | | |
| | (a) Steel rails and fish-plates | ..... | 31 | ..... | 31 | |
| | (b) Sleepers and keys of steel and cast-iron. | 44 | 14 | 30 | ..... |  |
| | (c) Others | 82 | 114 | ..... | 32 | |
| 24 | Salt | 4,038 | 4,891 | 57 | ..... |  |
| 25 | Saltpetre and other saline substances— | | | | | |
| | (1) Saltpetre | ..... | ..... | ..... | ..... |  |
| | (2) Other saline substances | 201 | 160 | 41 | ..... |  |
| 26 | Spices— | | | | | |
| | (1) Raw— | | | | | |
| | (a) Foreign | ..... | ..... | ..... | ..... |  |
| | (b) Indian | 11 | ..... | 11 | ..... |  |
| | (2) Piece-goods— | | | | | |
| | (a) Foreign | ..... | ..... | ..... | ..... |  |
| | (b) Indian | ..... | ..... | ..... | ..... |  |
| 27 | Spices— | | | | | |
| | (1) Betelnuts | 800 | 477 | 323 | ..... |  |
| | (2) Cardamoms | 10 | 1 | 9 | ..... |  |
| | (3) Chillies | 200 | 94 | 115 | ..... |  |
| | (4) Ginger | 33 | 45 | ..... | 12 | |
| | (5) Pepper | 18 | 22 | ..... | 4 | |
| | (6) Others | 63 | 78 | ..... | 15 | |
| 28 | Stone and lime | 1,590 | 1,029 | ..... | 43 | |
| 29 | Sugar— | | | | | |
| | (1) Refined or crystallized, including sugar-candy. | 924 | 595 | 329 | ..... |  |
| | (2) Unrefined— | | | | | |
| | (a) Sugar | 640 | 685 | ..... | 45 | |
| | (b) Gur, rab, jaggery, molasses, and other saccharine produce. | 484 | 1,438 | ..... | 954 | |
| 30 | Tea— | | | | | |
| | (1) Foreign | ..... | ..... | ..... | ..... |  |
| | (2) Indian | 4,760 | 6,800 | ..... | 1,001 | |
| 31 | Tobacco— | | | | | |
| | (1) Unmanufactured | 1,940 | 2,060 | ..... | 750 | |
| | (2) Manufactured— | | | | | |
| | (a) Cigars | 28 | 28 | ..... | ..... |  |
| | (b) Other sorts | ..... | ..... | ..... | ..... |  |
| 32 | Wood— | | | | | |
| | (1) Timber, unwrought | 479 | 528 | ..... | 110 | |
| | (2) Manufactures | 171 | 68 | 103 | ..... |  |
| 33 | Wool— | | | | | |
| | (1) Raw | ..... | ..... | ..... | ..... |  |
| | (2) Manufactured— | | | | | |
| | (a) Carpets and rugs | ..... | ..... | ..... | ..... |  |
| | (b) Piece-goods, European | ..... | ..... | ..... | ..... |  |
| | (c) Ditto, Indian | 4 | 1 | 3 | ..... |  |
| | (d) Other sorts of manufactures | ..... | ..... | ..... | ..... |  |
| 34 | All other articles of merchandise | 5,777 | 5,269 | 488 | ..... |  |
| | Total | 144,684 | 133,911 | 17,420 | 6,647 | |

CALCUTTA, the 8th December 1902.
 HARPRASAD DAR,
 for Examiner of Accounts, E. B. S. Railway.

Weekly Return of Traffic Receipts on Indian Railways.

BENGAL CENTRAL RAILWAY COMPANY, LIMITED.

Approximate Return of Traffic and Milage for the week ended 29th November 1902 on 139 miles open.

| | COACHING TRAFFIC. | | MERCHANDISE AND MINERAL TRAFFIC. | | Other earnings. | Total earnings. | TRAFFIC TRAIN-MILES RUN. | | |
|---|-----------------------|--------------------|----------------------------------|--------------|-----------------|-----------------|--------------------------|-------------------|---------|
| | Number of passengers. | Coaching receipts. | Weight carried. | Receipts. | | | Coaching. | Merchan- dise. | Total. |
| | | | | | | | | | |
| | | Rs. A. P. | Mds. s. | Rs. A. P. | Rs. A. P. | Rs. A. P. | | | |
| Total traffic for the week ... | 38,888 | 15,863 0 0 | 75,300 0 | 2,145 0 0 | 111 0 0 | 25,121 0 0 | 4,745 | 3,198 | 7,943 |
| Or per mile of railway ... | 281 | 122 0 0† | 542 0 | 66 0 0 | 1 0 0 | 189 0 0 | | | |
| For previous 51 weeks of half-year | 743,470 | 2,94,650 0 0 | 23,11,850 0 | 2,67,831 0 0 | 8,135 0 0 | 5,70,516 0 0 | 71,005 | 97,492 | 168,496 |
| Total for 52 weeks ... | 777,358 | 3,10,415 0 0 | 23,87,150 0 | 2,76,976 0 0 | 8,246 0 0 | 5,95,637 0 0 | 75,748 | 100,690 | 176,438 |
| COMPARISON. | | | | | | | | | |
| Total for corresponding week of previous year ... | 34,531 | 17,365 0 0 | 60,658 0 | 7,936 0 0 | 1,521 0 0 | 26,822 0 0 | 3,968 | 3,912 | 7,874 |
| Per mile of railway corresponding week of previous year | 266 | 134 0 0 | 582 0 | 57 0 0 | 11 0 0 | 202 0 0 | ..... | ..... | ..... |
| Total to corresponding date of previous year | 775,879 | 3,13,811 0 0 | 25,77,428 0 | 3,07,373 0 0 | 41,661 0 0 | 6,02,575 0 0 | 71,473 | 106,133 | 177,606 |

* Audited up to week ending 4th October 1902.

† Coaching traffic calculated on 139 miles only.

ASSAM-BENGAL RAILWAY.

Approximate Return of traffic for the week ended 29th November 1902 on 558 miles open for all descriptions of traffic, and an additional 31 miles for goods and parcels traffic only.

| | COACHING TRAFFIC. | | MERCHANDISE AND MINERAL TRAFFIC. | | Other earnings. | Total earnings. | TRAFFIC TRAIN-MILES RUN. | | |
|---|--------------------|--------------------|----------------------------------|--------------|-----------------|-----------------|--------------------------|--------------|---------|
| | No. of passengers. | Coaching receipts. | Weight carried. | Receipts. | | | Coaching. | Merchandise. | Total. |
| | | | | | | | | | |
| | | Rs. A. P. | Mds. s. | Rs. A. P. | Rs. A. P. | Rs. A. P. | | | |
| Total traffic for the week ... | 38,325 | 24,014 0 0 | 3,21,107 0 | 17,187 0 0 | 1,192 0 0 | 42,308 0 0 | 6,945 | 9,705 | 16,650 |
| Or per mile of railway .. | 68'61 | 43'04 | 375'39 | 29'18 | 2'02 | 74'24 | 12'45 | 16'46 | 28'93 |
| For previous 51 weeks of half-year | 639,281 | 3,82,453 0 0 | 48,89,867 0 | 3,90,330 0 0 | 29,809 0 0 | 5,11,592 0 0 | 133,123 | 204,220 | 337,343 |
| Total for 52 weeks | 667,509 | 4,06,467 0 0 | 51,10,974 0 | 4,16,517 0 0 | 31,001 0 0 | 5,53,988 0 0 | 140,068 | 213,925 | 353,993 |
| COMPARISON. | | | | | | | | | |
| Total for corresponding week of previous year ... | 40,275 | 29,390 0 0 | 1,17,992 0 | 16,942 0 0 | 4,115 0 0 | 50,447 0 0 | 6,539 | 6,802 | 12,741 |
| Per mile of railway corresponding week of previous year | 72'18 | 52'67 | 199'14 | 28'76 | 6'99 | 88'42 | 11'73 | 10'53 | 22'25 |
| Total to corresponding date of previous year | 646,285 | 4,06,781 0 0 | 28,51,731 0 | 3,98,234 0 0 | 30,514 0 0 | 5,37,529 0 0 | 137,097 | 142,043 | 279,139 |

FINANCIAL YEAR.

Approximate Statement of Gross Receipts of the Assam-Bengal Railway.

| RECEIPTS FOR WEEK ENDING 29TH NOVEMBER 1902. | | | RECEIPTS FOR WEEK ENDING 30TH NOVEMBER 1901. | | | TOTAL RECEIPTS FROM 1ST APRIL 1902 TO 29TH NOVEMBER 1902. | | | TOTAL RECEIPTS FROM 1ST APRIL 1901 TO 30TH NOVEMBER 1901. | | | Total increase in 1902. | Total decrease in 1902. |
|--|-----------|------------------|--|-----------|------------------|---|-----------------|------------------|---|-----------------|------------------|-------------------------|-------------------------|
| Mean mileage worked. | Receipts. | Per mile worked. | Mean mileage worked. | Receipts. | Per mile worked. | Mean mileage worked. | Total receipts. | Per mile worked. | Mean mileage worked. | Total receipts. | Per mile worked. | | |
| | Rs. | Rs. | | Rs. | Rs. | | Rs. | | | Rs. | | | Rs. |
| 589 | 42,383 | 74'24 | 589 | 50,447 | 85'48 | 589 | 13,06,959 | ... | 589 | 12,58,225 | ... | ..... | 40,366 |

BENGAL AND NORTH-WESTERN RAILWAY.

Approximate Return of Traffic for the week ending 6th December 1902 on 1,261 miles open.

| | COACHING TRAFFIC. | | MERCHANDISE AND MINERAL TRAFFIC. | | Other earnings (estimated), including steam-boat. | Total earnings. | TRAFFIC TRAIN-MILES RUN. | | |
|---|-----------------------|----------------|----------------------------------|------------|---|-----------------|--------------------------|--------------|-----------|
| | Number of passengers. | Receipts. | Weight carried. | Receipts. | | | Coaching. | Merchandise. | Total. |
| Total traffic for the week on 1,261 miles open | 176,640 | Rs. (a) 82,880 | Mrs. 6,39,520 | Rs. 85,350 | Rs. 11,960 | (a) 1,80,170 | 41,729 | (b) 28,677 | 70,406 |
| Or per mile of railway | 188.49 | 65.71 | 507.15 | 67.68 | 9.49 | 143.88 | ..... | ..... | ..... |
| For previous 21½ weeks of half-year (c) | 4,140,849 | 17,31,725 | 1,18,58,082 | 12,94,667 | 3,30,339 | 33,44,781 | 981,537 | 638,170 | 1,569,697 |
| Total for 22½ weeks | 4,315,489 | 18,04,585 | 1,19,97,602 | 13,80,017 | 3,42,299 | 35,26,901 | 973,356 | 696,847 | 1,640,103 |
| COMPARISON. | | | | | | | | | |
| Total for corresponding week of previous year on 1,261 miles open | 181,644 | 97,780 | 5,89,293 | 81,943 | 16,227 | 1,96,919 | 33,464 | (d) 31,843 | 65,303 |
| Per mile of corresponding week of previous year | 145.20 | 78.14 | 471.00 | 65.50 | 13.97 | 166.61 | ..... | ..... | ..... |
| Total to corresponding date of previous year | 4,336,887 | 18,30,969 | 1,27,50,903 | 14,50,768 | 3,67,943 | 33,39,069 | 784,823 | 649,386 | 1,433,207 |

- (a) Decrease due to return *mela* traffic from Sonapore and Ajodhya partly held in the corresponding week of the previous year.
 (b) Includes 2,480 miles of ballast trains run on open line.
 (c) .. audited figures up to week ending 18th October 1902.
 (d) .. 5,038 miles of ballast trains run on open line.

SEGOWLIE-RAKSAUL BRANCH RAILWAY.

(WORKED BY THE B. & N.-W. RAILWAY.)

Approximate Return of Traffic for the week ending 6th December 1902 on 18 miles open.

| | COACHING TRAFFIC. | | MERCHANDISE AND MINERAL TRAFFIC. | | Other earnings (estimated). | Total earnings. | TRAFFIC TRAIN-MILES RUN. | | |
|--|---------------------|-----------|----------------------------------|-----------|-----------------------------|-----------------|--------------------------|--------------|--------|
| | Passengers carried. | Receipts. | Weight carried. | Receipts. | | | Coaching. | Merchandise. | Total. |
| Total traffic for the week on 18 miles open | No. 1,327 | Rs. 214 | Mds. 11,265 | Rs. 234 | Rs. 20 | 468 | 362 | 142 | 504 |
| Or per mile of railway | 73.72 | 11.89 | 625.83 | 13.00 | 1.11 | 26.00 | ..... | ..... | ..... |
| For previous 21½ weeks of half-year (a) | 42,617 | 4,692 | 2,50,727 | 6,900 | 218 | 11,040 | 6,851 | 2,829 | 9,680 |
| Total for 22½ weeks | 43,944 | 4,836 | 2,61,992 | 6,434 | 238 | 11,508 | 7,213 | 2,971 | 10,184 |
| COMPARISON. | | | | | | | | | |
| Total for corresponding week of previous year on 18 miles open | 2,069 | 457 | 14,419 | 286 | 40 | 783 | 363 | 142 | 504 |
| Per mile of corresponding week of previous year | 142.22 | 25.40 | 801.06 | 15.87 | 2.23 | 43.50 | ..... | ..... | ..... |
| Total to corresponding date of previous year | 56,345 | 8,475 | 2,63,416 | 6,110 | 308 | 14,894 | 9,089 | 2,468 | 11,556 |

- (a) Includes audited figures up to week ending 18th October 1902.

SEGOWLIE-RAKSAUL BRANCH RAILWAY.

(WORKED BY THE B. & N.-W. RAILWAY.)

Audited Return of Traffic for the week ending 18th October 1902 on 18 miles open.

| | COACHING TRAFFIC. | | MERCHANDISE AND MINERAL TRAFFIC. | | Other earnings. | Total earnings. | TRAFFIC TRAIN-MILES RUN. | | |
|--|---------------------|--------------------|----------------------------------|-------------------|------------------|-----------------|--------------------------|--------------|--------|
| | Passengers carried. | Receipts. | Weight carried. | Receipts. | | | Coaching. | Merchandise. | Total. |
| Total traffic for the week on 18 miles open | No. 3,574 | Rs. A. P. 185 9 10 | Mds. 6,718 | Rs. A. P. 252 9 0 | Rs. A. P. 11 8 0 | 449 10 10 | 330 | 174 | 504 |
| Or per mile of railway | 198.56 | 10 5 0 | 372.94 | 14 0 6 | 0 10 3 | 24 15 9 | ..... | ..... | ..... |
| For previous 14½ weeks of half-year | 28,068 | 2,616 4 9 | 119,168 | 3,964 10 0 | 130 15 0 | 6,697 11 9 | 4,641 | 1,457 | 6,098 |
| Total for 15½ weeks | 31,642 | 2,797 14 7 | 125,881 | 4,207 3 0 | 143 5 0 | 7,147 6 7 | 4,971 | 1,631 | 6,602 |
| COMPARISON. | | | | | | | | | |
| Total for corresponding week of previous year on 18 miles open | 1,970 | 360 6 10 | 20,372 | 586 8 3 | 20 10 0 | 800 9 1 | 360 | 144 | 504 |
| Per mile of corresponding period of previous year | 109.44 | 16 11 0 | 1,131.78 | 31 10 3 | 1 3 4 | 49 7 7 | ..... | ..... | ..... |
| Total to corresponding date of previous year | 37,697 | 3,543 4 4 | 163,279 | 4,068 4 11 | 175 7 0 | 9,786 0 3 | 6,667 | 1,461 | 8,028 |

DARJEELING-HIMALAYAN RAILWAY COMPANY, LIMITED.

| | | | | Rs. | A. | P. | Rs. | A. | P. | |
|--|-----|-----|----------------|-----|--------|----|----------|--------|----|---|
| Approximate earnings for the week ending 6th Dec. 1902 | ... | { | Coaching | ... | 4,426 | 0 | 0 | 15,385 | 0 | 0 |
| | | | Goods | ... | 10,901 | 0 | 0 | | | |
| | | | Other earnings | ... | 58 | 0 | 0 | | | |
| Audited earnings for the corresponding period of 1901 | ... | { | Coaching | ... | 4,473 | 0 | 0 | 15,299 | 0 | 0 |
| | | | Goods | ... | 10,745 | 0 | 0 | | | |
| | | | Other earnings | ... | 81 | 0 | 0 | | | |
| | | | Increase | ... | | | 86 | 0 | 0 | |
| Receipts per mile for the week ending 6th Dec. 1902 | ... | ... | ... | ... | | | 301 | 10 | 8 | |
| Ditto for the corresponding period of 1901 | ... | ... | ... | ... | | | 299 | 15 | 8 | |
| | | | Increase | ... | | | 1 | 11 | 0 | |
| Receipts from 1st July to 6th Dec. 1902 | ... | ... | ... | ... | | | 3,52,728 | 0 | 0 | |
| Ditto for the corresponding period of 1901 | ... | ... | ... | ... | | | 3,53,888 | 0 | 0 | |
| | | | Decrease | ... | | | 1,160 | 0 | 0 | |



SUPPLEMENT TO The Calcutta Gazette.

WEDNESDAY, DECEMBER 24, 1902.

OFFICIAL PAPERS.

[Non-Subscribers to the GAZETTE may receive the SUPPLEMENT separately on payment of five rupees per annum if delivered in Calcutta, or seven rupees and eight annas if sent by post.]

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TRIENNIAL REVENUE REPORT OF BENGAL.

No. 16917.A.

Government of Bengal.

IRRIGATION DEPARTMENT.

ACCOUNTS.

Dated Calcutta, the 17th December 1902.

RESOLUTION.

The Canal Revenue Reports for the triennial period ending 31st March 1902.

READ—

The Canal Revenue Reports for the triennial period ending 31st March 1902, and the Chief Engineer's Note on the same.

The Major Irrigation Works are divided into two classes—

I.—Productive Works.

II.—Protective Works.

The Productive Works comprise the Orissa, the Midnapore, the Hijili Tidal, and the Sone Canals. These works are all in operation. The Protective Works,

which are now in process of construction, are the Tribeni and Dhaka Canals. The **Minor Works** for navigation are the Calcutta and Eastern Canals, the Orissa Coast Canal, the Nadia Rivers, and the Gaighata and Buxi Khal: while the works for irrigation are the Saran, the Eden, and the Madhuban Canals.

2. The capital outlay on the Major Works in operation was Rs. 6,43,16,069* up to the end of March 1902. Their total length during the period under review remained the same, viz., 748 miles. Of this length, 495½ miles were both for irrigation and navigation, 223¼ miles for irrigation only, and 29 miles for navigation only. There was an increase of 19½ miles in the total length of distributaries, which now stands at 2,634 miles. The total area irrigable at the end of the triennial period was 1,416,374 acres.

On the Protective Works in progress the capital outlay (direct charges) incurred during the period under review was Rs. 4,39,907. Their total length, as estimated, is 78½ miles, and the area irrigable 127,500 acres.

Paragraphs 3 to 22 below will deal with the four **Major Works** in operation, viz., the Orissa, Midnapore, Hijili Tidal and Sone Canals, while paragraphs 23 to 31 will treat of the canals classed as **Minor Works** only.

3. The average receipts of the canal systems from all sources during the triennial period were Rs. 17,98,015 against the average working expenses of Rs. 13,00,301, showing an average net revenue of Rs. 4,97,714. This was less than the average net revenue for the period ending March 1899 by Rs. 63,111, but greater than that of the average for the period ending March 1896 by Rs. 8,95,938. Notwithstanding that the average working expenses were reduced by Rs. 1,10,317, the smaller surplus was entirely owing to the greater diminution in navigation receipts, caused by the opening of the Bengal-Nagpur and the Mogulserai-Gaya Railways.

4. The capital outlay up to the end of the year 1901-1902 on each of the canal systems and the financial results during the period under review are shown in the following statement:—

| NAMES OF CANALS. | Capital expenditure (direct and indirect) to end of 1901-1902. | Average receipts during the triennial period ending March 1902 (less refunds). | Average expenditure during the triennial period ending March 1902, including indirect charges. | Average net income of the triennial period ending March 1902. | AVERAGE NET INCOME OF THE TRIENNIAL PERIOD ENDING— | |
|----------------------------------|--|--|--|---|--|-------------------|
| | | | | | March 1899. | March 1896. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Major Works in operation.</i> | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Orissa Canals ... | 2,64,88,501 | 3,98,994 | 4,51,297 | - 52,303 | - 13,601 | - 1,22,226 |
| Midnapore Canal ... | 84,74,988 | 2,37,278 | 2,08,608 | + 28,770 | + 11,806 | + 51,319 |
| Hijili Tidal Canal ... | 26,15,154 | 49,470 | 35,697 | + 13,773 | + 42,868 | + 4,791 |
| Sone Canals ... | 2,67,47,426 | 11,12,278 | 6,04,804 | + 5,07,474 | + 5,20,666 | + 1,67,892 |
| Total ... | 6,43,16,069 | 17,98,015 | 13,00,301 | + 4,97,714 | + 5,80,825 | + 1,01,776 |

* Includes Rs. 17,55,652 on account of indirect charges.

SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 24, 1902. 1921

In the table below the average financial results of the canals during the period under review are compared with those of the five previous periods:—

| PARTICULARS. | AVERAGE OF THE TRIENNIAL PERIODS ENDING— | | | | | |
|--|--|-------------|-------------|-------------|--------------|-------------|
| | March 1902. | March 1899. | March 1896. | March 1893. | March 1890. | March 1887. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Receipts from all sources (less refunds). | 17,98,015 | 19,71,448 | 15,61,287 | 16,07,032 | 13,24,244 | 14,14,609 |
| Working expenses (including indirect charges). | 13,00,301 | 14,10,618 | 14,62,511 | 14,51,821 | 14,98,944 | 12,67,281 |
| Net revenue ... | 4,97,714 | 5,60,825 | 1,01,776 | 1,55,211 | (-) 1,69,700 | 1,47,328 |
| Charges for interest ... | 25,00,725 | 24,97,888 | 24,79,424 | 24,15,282 | 23,39,112 | 22,66,780 |

The canals rather more than pay their working expenses, but the net revenue does not go far towards paying the interest charges; the financial results are, however, improving, and with the prospects of enhanced water-rates will continue to improve.

5. The following statement shows the average areas irrigated by the Orissa, Midnapore and Sone Canals during the triennial period under review and the two previous periods:—

| YEAR. | Orissa Canals. | Midnapore Canal. | SONE CANALS. | | | All Canals. | Rainfall. |
|-----------------------|----------------|------------------|-----------------------------------|---------|---------|-------------|-----------|
| | | | Kharif, inclusive of hot weather. | Rabi. | Total. | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Inches. |
| 1893-94 ... | 103,526 | 85,763 | 300,318 | 66,456 | 366,776 | 556,065 | 64.03 |
| 1894-95 ... | 123,561 | 70,116 | 275,470 | 41,664 | 317,134 | 509,811 | 58.16 |
| 1895-96 ... | 119,460 | 65,251 | 279,879 | 115,343 | 395,222 | 579,933 | 46.05 |
| Triennial average ... | 116,182 | 73,710 | 293,222 | 74,489 | 367,711 | 548,603 | 56.08 |
| 1896-97 ... | 185,048 | 65,183 | 339,766 | 216,390 | 556,156 | 806,337 | 59.51 |
| 1897-98 ... | 195,602 | 72,216 | 330,074 | 103,371 | 433,445 | 701,253 | 52.70 |
| 1898-99 ... | 194,847 | 76,578 | 330,761 | 110,035 | 440,796 | 712,221 | 55.86 |
| Triennial average ... | 191,832 | 71,322 | 333,534 | 142,932 | 476,466 | 709,600 | 52.86 |
| 1899-1900 ... | 200,828 | 72,105 | 330,795 | 123,293 | 454,088 | 727,026 | 59.73 |
| 1900-1901 ... | 203,540 | 80,330 | 341,429 | 90,984 | 432,413 | 716,283 | 60.63 |
| 1901-1902 ... | 201,498 | 82,134 | 362,081 | 195,413 | 557,494 | 841,125 | 43.77 |
| Triennial average ... | 201,955 | 78,190 | 344,768 | 136,565 | 481,333 | 761,475 | 54.67 |

There is very little *rabi* irrigation from the Orissa and Midnapore Canals. Of the average areas irrigated from the Sone Canals under *kharif* during the last nine years, the season leases only averaged 18 per cent. of the total, the balance of the area irrigated being under long lease for seven years.

The areas irrigated are increasing every year. This shows that the people in the districts commanded by the Sone Canals are realizing more and more the benefits of canal irrigation, which assures them a bumper crop in time of drought and an increased outturn in years of ordinary rainfall.

In the famine year of 1896-97 and in 1901-1902 it is estimated that not less than 33 and 35 lakhs of maunds of grain were added to the food-supply of Bihar by these canals.

6. The progress made in the collection of water-rates during the triennial period under review and the two previous triennia is exhibited in the following table :—

| YEAR. | Balance at the beginning of the year. | Total demand of the year. | Cash realizations of the year. | Remissions. | Irrecoverable items. | Balance at the end of the year. | Certificates issued during the year. |
|---|---------------------------------------|---------------------------|--------------------------------|-------------|----------------------|---------------------------------|--------------------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1899-1900 ... | Rs. 5,718 | Rs. 13,71,061 | Rs. 13,65,741 | Rs. 3,726 | Rs. 466 | Rs. 1,128 | Rs. 988 |
| 1900-1901 ... | 1,128 | 14,51,307 | 14,46,100 | 4,501 | 508 | 198 | 876 |
| 1901-1902 ... | 198 | 14,41,424 | 14,32,901 | 1,506 | 89 | 6,928 | 693 |
| Triennial average | 2,348 | 14,21,263 | 14,14,914 | 3,244 | 354 | 2,751 | 852 |
| Triennial average for the period ending March 1899. | 32,860 | 14,24,471 | 13,96,985 | 1,108 | 12,281 | 14,097 | 2,504 |
| Triennial average for the period ending March 1896. | 1,68,636 | 12,05,327 | 10,97,193 | 57,501 | 4,902 | 1,05,731 | 7,500 |

This table is instructive showing, as it does, that the very small outstanding balance at the end of the year continues to be one of the satisfactory features of the administration of these Canals. Excluding the sum of Rs. 6,141, which was uncollected in the Orissa Circle owing to a certain number of leases having been received late in March, the outstanding balance, out of a demand of Rs. 14,41,424, was only Rs. 787. This in itself is eminently satisfactory, but the decrease in the number of certificates and the small amount of irrecoverable items all clearly indicate, not only the excellent work done by the collecting establishment, but also the accuracy of the measurements made by the Canal Officers on which the demand statements are prepared.

7. The navigation receipts during the triennial period under review and the two previous periods are shown below :—

| YEAR. | Orissa Canals. | Midnapore Canal. | Hijili Tidal Canal. | Sone Canals. | Total. | Miles open. | Tollage per mile. |
|---|----------------|------------------|---------------------|--------------|--------------|-------------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1899-1900 ... | Rs. 99,740 | Rs. 89,789 | Rs. 51,796 | Rs. 85,526 | Rs. 3,26,851 | Miles. 524½ | Rs. 623 |
| 1900-1901 ... | 90,139 | 97,730 | 45,472 | 36,247 | 2,69,587 | 524½ | 514 |
| 1901-1902 ... | 78,153 | 89,835 | 45,909 | 23,571 | 2,37,468 | 524½ | 453 |
| Triennial average | 89,344 | 92,451 | 47,725 | 48,448 | 2,77,968 | 524½ | 530 |
| Triennial average for the period ending March 1899. | 1,52,916 | 1,30,044 | 84,675 | 71,513 | 4,39,148 | 524½ | 838 |
| Triennial average for the period ending March 1896. | 1,19,291 | 1,31,468 | 58,658 | 50,422 | 3,59,839 | 524½ | 886 |

The above statement is interesting, but it is also disappointing as it brings to notice the very marked decrease of revenue under navigation.

In the previous triennial period, the average receipts were the highest on record, and were due, in a great measure, to the large quantities of building materials which were boated along the canals for the adjoining railways then under construction. It is the opening of these same railways to traffic, viz., the Bengal-Nagpur and Mogulsarai-Gaya Railways, which has caused this great loss of revenue from navigation.

The receipts in 1901-1902 were barely one-half of what they were in 1895-1896, and unfortunately they continue to show a steady decrease each year. This is the more astonishing, as it has hitherto been an accepted fact that railways could never compete successfully with canals for the carriage of goods.

On the Sone canals the diminution of traffic is not surprising, as navigation never made much progress either in the Shahabad or Patna district. On the other canals, the results are very disappointing, inasmuch as, although it was foreseen that the pilgrim traffic to Puri would take to the railway, it was assumed that the canals would still retain the goods traffic. The whole question is under examination, and the Government of India will shortly be addressed on the subject.

8. The average miscellaneous revenue for the triennial period under review was Rs. 94,959 against the average of Rs. 92,010 during the previous period.

9. On the **Orissa Canals** the capital outlay incurred during the period under review amounted to Rs. 1,05,941. This sum was expended mainly on the construction of permanent outlets on distributaries, and on the Dudhai Canal.

10. The average receipts were Rs. 3,98,994, or Rs. 97,794 less than the average of the previous triennial period. The decrease took place under both water-rates and navigation. The falling off under navigation alone was more than Rs. 85,000. It was mainly due to the opening of the Bengal-Nagpur Railway and the consequent abolition of the transport service.

11. The average area irrigated was 201,955 acres, or 10,123 acres more than the average of the previous period. The increase took place under *kharif*.

12. The average working expenses during the last three years were Rs. 4,51,297 against Rs. 5,10,292 and Rs. 4,97,064, the averages for the two previous triennial periods. The decrease in the working expenses was due to there being no heavy flood damage repairs since no high floods occurred in the rivers.

13. Notwithstanding the decrease in the working expenses, the net result was a deficit of Rs. 52,303 against a deficit of Rs. 13,504 in the previous period. This was due mainly to the competition of the Bengal-Nagpur Railway already referred to.

14. On the **Midnapore Canal** there was a great reduction in the working expenses during the period under review. This was due partly to the absence of high floods in any of the rivers crossed by the canal, and partly to the withdrawal of the daily mail steamer service from 1st January 1901, owing to the opening of the Bengal-Nagpur Railway. With the cessation of the steamer service it was no longer necessary to dredge the entrance channels to the locks, or torevet the canal banks, in order to protect them from the wash caused by the steamers.

There was some improvement in the collection of water-rates, the average having increased to Rs. 1,23,812 against the average of Rs. 1,09,360 in the previous period. The navigation receipts, however, showed a considerable falling off, the average for the triennial period under review being Rs. 92,451

against Rs. 1,20,014 and Rs. 1,31,468, the averages for the two previous periods. The cause of the great decrease has already been explained. The average net revenue for the period ending March 1902 was Rs. 17,465 in excess of that for the preceding period, and was in great measure due to the abolition of the steamer service whereby great savings were effected in the maintenance of the canal. The capital outlay incurred was Rs. 9,223, of which Rs. 8,000 were expended on the purchase of an office and residence for the Executive Engineer, Cossye Division, and Rs. 1,223 on the construction of permanent outlets to improve the water distribution.

15. The area irrigated, which was mostly under *kharif*, increased from an average of 73,710 acres in the three years ending March 1896 to an average of 78,190 acres in the triennial period under review. The *rabi* irrigation is very small. The area under long-term leases in 1901-1902 was 81,784 acres. This exceeded the maximum area of 75,000 acres as laid down in the revised water-rate rules for the Midnapore Canal.

16. The number of certificates issued during the triennial period shows a marked improvement compared with the number issued during 1898-1899.

17. The traffic on the **Hijili Tidal Canal** suffered considerably owing to the opening of the Bengal-Nagpur Railway. The average receipts from navigation decreased from Rs. 84,675 during the triennial period ending March 1899 to Rs. 47,725 during the period under review, the result being a reduction in the average net revenue from Rs. 42,358 to Rs. 15,773. There was a slight improvement in the working expenses.

18. On the **Sone Canals** Rs. 24,070 were spent on works chargeable to the Capital Account, but the net outlay shown in the accounts, owing to sales of plant, was a minus figure [Rs. (—) 18,833].

19. The receipts from all sources averaged Rs. 11,12,278 against Rs. 11,28,616, the average for the previous period. The decrease was mainly under navigation receipts, which fell from Rs. 87,999, the average for the triennial period ending March 1899, to Rs. 48,832, the average for the period under review. The decrease was mainly due to the opening and competition of the Mozulserai-Gaya Railway. The receipts from water-rates increased from Rs. 10,09,662, the average for the triennial period ending March 1899, to Rs. 10,26,459, the average for the period ending March 1902.

There was a slight improvement in the miscellaneous revenue.

20. The rainfall of the year 1899-1900, though above the average, on the whole was deficient and unseasonable during the *kharif* season. In the early part of October, during the *hathiya*, there was no rain, and none fell till the end of the month. In the *rabi* season the rainfall in January was very beneficial to the crop. The rainfall of the year 1900-1901, though below the average and much less than that in the previous year, was heavier during both the *kharif* and *rabi* seasons. The year 1901-1902 was one of very scant rainfall—in fact the lowest on record since 1877-1878. It was deficient in the *kharif* season, and consequently there was a brisk demand for canal water during the rice transplanting season and the *hathiya* as well. Very little rain fell during the *rabi* season, the result being that a much larger area was leased than is ordinarily the case.

21. The area irrigated during the year 1901-1902, viz., 557,494 acres was the maximum on record. It exceeded the previous maximum of 1896-1897 by 2,338 acres. The average area irrigated was 481,333 acres against 476,466 acres in the previous period. The increase took place mainly under *kharif*, while there was a decrease under *rabi* and hot-weather irrigation. Compared with the average for the period ending March 1896, the average for the period under review was better by 121,622 acres, a result which shows that the people do appreciate the benefits of canal irrigation. This is also proved by the fact that the area under long term leases has gradually increased, the average for the triennial period under review being 313,011 acres against 297,544

and 271,552 acres for the periods ending March 1899 and March 1896, respectively.

22. The working expenses averaged Rs. 6,04,804 or Rs. 3,146 less compared with the average of the previous period. The net result of the working of the triennial period under review was a profit of Rs. 5,07,474, which is equivalent to a percentage of 1·89 on the capital outlay.

23. The capital outlay (direct and indirect charges) on canals classed a **Minor Works and Navigation** was Rs. 2,86,724 during the period under review and Rs. 1,27,48,403* up to the end of this period. The average receipts and working expenses amounted to Rs. 6,05,205 and Rs. 4,98,763 respectively, the net revenue being Rs. 1,06,442 against Rs. 1,21,913, the average for the period ending March 1899.

The financial results of each of the canals during the triennial period and the capital expenditure to date are exhibited in the following table:—

| | CAPITAL EXPENDITURE (DIRECT AND INDIRECT) — | | Average receipts of the triennial period, less refunds. | Average expenditure of the triennial period, including indirect charges. | Average net increase of the triennial period. | AVERAGE NET INCREASE OF THE TRIENNIAL PERIOD ENDING— | |
|------------------------------------|---|---------------------------------|---|--|---|--|-------------|
| | Of the triennial period. | To end of the triennial period. | | | | March 1899. | March 1900. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| MINOR WORKS AND NAVIGATION. | Rs. | Rs. | Rs. | Rs. | (Rs.) | Rs. | Rs. |
| Calcutta and Eastern Canals | 3,43,357 | 68,04,609 | 4,23,132 | 2,66,435 | 1,56,697 | 1,87,527 | 1,50,251 |
| Orissa Coast Canal | (—) 53,032 | 44,79,390 | 48,806 | 67,363 | — 18,460 | 4 523 | — 1,406 |
| Saran Canals | (—) 1 | 7,09,559 | 1,375 | 3,309 | — 1,934 | — 6,599 | — 1,047 |
| Nadia Rivers | ... | ... | 99,203 | 1,17,346 | — 18,082 | — 32,389 | — 274 |
| Edon Canal | ... | ... | 27,653 | 34,256 | — 10,603 | — 37,926 | — 30,674 |
| Madhuban Canal | ... | ... | 168 | 5,895 | — 5,647 | — 7,133 | — 6,617 |
| Gaighata and Baxi Khal | ... | ... | 4,277 | 245 | 4,033 | 3,909 | — 11,865 |
| Total | 2,90,394 | 1,19,90,548 | 5,01,734 | 4,98,760 | 1,06,444 | 1,21,913 | 1,06,188 |

* Includes the amount expended on the Tirhut and Damodar Projects.

24. The **Calcutta and Eastern Canals** are a series of navigable channels, partly natural and partly artificial, connecting Calcutta with the Eastern Districts of Bengal. The average receipts and working expenses amounted to Rs. 4,23,132 and Rs. 2,66,435, respectively, the result being a profit of Rs. 1,56,697 against Rs. 1,87,527 in the previous triennial period. The decrease was due to a falling off in the navigation receipts during the two years, 1900-1901 and 1901-1902. The average number of boats using the canals during the triennial period under review was 125,008 against 123,584 in the preceding period.

25. In order to provide a shorter and easier route for steamers during the rainy season, certain improvements of the Madaripore *bhil* route between the rivers Kumar and Madhumati from Khulna to Madaripore in the district of Faridpur were undertaken during the latter end of the year 1899-1900. The capital expenditure during the years 1900-1901 and 1901-1902 was solely incurred on the improvement of this route. Three estimates for the project have been sanctioned to date. The first estimate was for a channel about 22 miles in length to connect the Kumar and Madhumati rivers. This has shortened the distance between Khulna and Madaripore by 89 miles. The second estimate was for widening the route, and the third for deepening it by two feet throughout, for the purpose of allowing steamers and flats drawing six feet of water to use the route during the jute season only between August and

September. Works in connection with the first estimate have been completed; those for widening and deepening the route are in progress. The question of still further improving the channel so as to make it navigable throughout the year is under consideration.

26. The **Orissa Coast Canal** is a continuation of the Hijili Tidal Canal and is for navigation purposes only. The average receipts for the triennial period under review amounted to Rs. 48,896 against Rs. 81,562 in the preceding period. This great falling off is mainly due to (1) the opening of the Bengal-Nagpur Railway to which most of the *rice* and other goods traffic have been diverted owing to the very low rates charged by the Railway, and (2) the consequent withdrawal by the steamer companies of their steamers since February 1900. The working expenses, however, were much reduced during the last two years, and the average for the triennial period under review showed a decrease of Rs. 9,674 compared with the average for the preceding period. The financial results are far from satisfactory, the average net revenue being a deficit of Rs. 18,469 against a profit of Rs. 4,523 in the preceding triennial period.

27. The **Saran Canals** practically remained closed during the past three years. They were opened for a short time only during the *kharif* and *rabi* seasons of the years 1900-1901 and 1901-1902 owing to the great demand for water caused by the scanty rainfall in the district commanded by them. The water was given free of charge at the request of the Collector and under the sanction of Government.

28. The work in the **Nadia Rivers** consists of the improvement and maintenance of the main offshoots from the Ganges, viz., the Bhagirathi, Bhairub, Julangi, and Mathabhanga rivers. These rivers have been steadily losing their position as a great trade route to Calcutta, and with the prospect of increased railway competition it is probable that they will still further decline in importance. It is intended to improve the head of the Bhagirathi by means of a powerful suction dredger with the object of rendering the river navigable for a longer time during the cold-weather months, but, until the experiment is made, it would be futile to attempt to predict what the result will be. The receipts averaged Rs. 99,263 during the triennial period under review against Rs. 90,644 in the preceding period. Compared with the average for the period ending March 1896 the receipts show a falling off of Rs. 45,069. The average working expenses for the two periods were Rs. 1,17,345 and Rs. 1,13,033 respectively, so that the net revenue was a deficit of Rs. 18,082 for the period ending March 1902 compared with a deficit of Rs. 22,389 in the preceding period. For the triennial period ending March 1893 the average profit was Rs. 68,432. This steady decline in revenue is due to the deterioration of the rivers and also to the competition of the railways.

29. The **Gaighata and Buxi Khal** was maintained during the triennial period at an average cost of Rs. 235. The lease of the right to collect tolls expired at the close of the year 1900-1901. It was renewed for another five years on the original term, viz., Rs. 4,500 per annum.

30. The **Eden Canal** was worked during the triennial period at a smaller loss than usual. The average receipts were Rs. 27,653 against Rs. 33,698 in the preceding triennial period. The working expenses amounted to Rs. 38,256 against Rs. 71,624, the net result being a reduction in the average deficit from Rs. 37,926 to Rs. 10,603, which was entirely due to the fact that there was no expenditure on original works.

The area irrigated during the triennial period averaged 27,494 acres against 25,179 acres, the average of the preceding period.

31. The average area irrigated from the **Madhuban Canal** was 3,128 acres against 5,480 acres in the previous period. The average outlay incurred for maintaining the canal was Rs. 5,805 against Rs. 7,277 in the previous period. No charge is made for water given for irrigation from the canal.

32. An abstract of the result of the experiments made on "average" rice crops in the irrigated and unirrigated lands and the value of the outturn per acre during the triennial period under review is given below :—

| CANALS. | AVERAGE YIELD PER ACRE WEIGHED DRY. | | | | VALUE OF OUTTURN TO CULTIVATORS PER ACRE FROM— | | | | Rate per rupee. |
|-------------------|--|--------|----------------------|--------|--|--------|----------------------|--------|---------------------------------------|
| | Irrigated land. | | Unirrigated land. | | Irrigated land. | | Unirrigated land. | | |
| | Paddy. | Straw. | Paddy. | Straw. | Rice.* | Straw. | Rice.* | Straw. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1899-1900. | | | | | | | | | |
| Orissa Canals ... | 24½ | 41 | 18½ | 35 | 39 | 4 | 28 | 4 | { Rice 17 seers. Straw 9 maunds. |
| Sone do. ... | 22½ | 38 | 16½ | 30½ | 26 | 5 | 18 | 4 | { Rice 24 seers. Straw 8 maunds. |
| Midnapore Canal | 19 | 38 | 17½ | 33 | 32 | 6 | 29 | 6 | { Rice 16 seers. Straw 6 maunds. |
| Eden do. | 31½ | 41½ | 20½ | 27½ | 67 | 14 | 43 | 9 | { Rice 12½ seers. Straw 3 maunds. |
| 1900-1901. | | | | | | | | | |
| Orissa Canals ... | 26 | 47 | 20½ | 39 | 38 | 5 | 32 | 3 | { Rice 17 seers. Straw 9 maunds. |
| Sone do. ... | 19½ | 34 | 14½ | 26 | 24 | 4 | 17 | 3 | { Rice 22 seers. Straw 8 maunds. |
| Midnapore Canal | 21 | 38 | 14½ | 28 | 39 | 7 | 26 | 6 | { Rice 14 seers. Straw 5 maunds. |
| Eden do. | 28½ | 49½ | 14½ | 22½ | 69 | 25 | 30 | 11 | { Rice 12½ seers. Straw 2 maunds. |
| 1901-1902. | | | | | | | | | |
| Orissa Canals ... | 23 | 42 | 16 | 34 | 29 | 5 | 20 | 4 | { Rice 20 seers. Straw 9 maunds. |
| Sone do. ... | 21 | 36 | 12½ | 24 | 31 | 12 | 19½ | 8 | { Rice 18 seers. Straw 3 maunds. |
| Midnapore Canal | 22½ | 41 | 17½ | 3½ | 51 | 9 | 40½ | 6½ | { Rice 11 seers. Straw 4½ maunds. |
| Eden do. | 24½ | 45½ | 18½ | 29½ | 57 | 30 | 44 | 20 | { Rice 11½ seers. Straw 1½ maunds. |

* Rice = ½ rds of paddy.

In 1901-1902 the rainfall in the month of October was scanty, so that where canal irrigation was not available the rice crop was below an average crop. If the differences in value for that year are compared, it is seen that the increased value of the outturn of crops due to irrigation was Rs. 10 from the Orissa Canals, Rs. 15 from the Sone Canals, Rs. 13 from the Midnapore Canal and Rs. 23 from the Eden Canal. The great difference of value on the Eden Canal is due to the high price obtained for straw in the Hooghly district.

33. The Irrigation Department of this Province was in charge of Mr. R. B. Buckley, C.S.I., Chief Engineer, during the triennial period under review. He has since retired from the Public Works Department having served in it for 32 years. The Lieutenant-Governor has recorded his appreciation of the work done by Mr. Buckley in the *Calcutta Gazette* of the 5th March 1902.

The Superintending Engineers, Mr. Inglis, Mr. Lees, Mr. Toogood and Mr. Butler were in charge of the four Irrigation Circles. The Lieutenant-Governor acknowledges the efficiency of their services. The large reduction

1923 SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 24, 1902.

in the expenditure on repairs during the last three years in the Midnapore Canal is due to the able management of Mr. C. A. White, Executive Engineer.

ORDER.—Ordered that a copy of this Resolution and of the Chief Engineer's note be submitted to the Government of India, in the Public Works Department, and published in the *Calcutta Gazette*; also that it be circulated to other Governments and to all Departments and officers of this Government as usual.

By order of the Lieutenant-Governor of Bengal,

D. B. HORN,
Secy. to the Govt. of Bengal.

Government of Bengal.

IRRIGATION DEPARTMENT.

REVENUE REPORT.

Note by D. B. Horn Esqr., Chief Engineer, on the Canal Revenue Reports of Bengal for the triennial period ending 31st March 1902.

THIS is the first triennial revenue report prepared in accordance with the orders of the Government of India, conveyed in their Resolution No. 670C.W.I., dated the 6th June 1901. The tables introduced by the Chief Engineer for the preparation of the report were approved by the Government of India in their letter No. 1136C.W.I., dated the 2nd October 1901.

Previous to the year 1899-1900 two annual reports were prepared in the Irrigation Department—one being the Irrigation Chapter of the Administration Report and the other the Canal Revenue Report. With a view to reducing the number and bulk of the Revenue Reports on Irrigation Works, and facilitating their earlier submission, the Inspector General of Irrigation in a note, dated the 18th June 1900, recommended—

- (1) that the Annual Revenue Report should consist of a brief administration report, together with the statistical statements of irrigation works prescribed by the Secretary of State, and the administrative accounts of irrigation works,
- (2) that other statistical information relating to the working of the canals, of which it may be important to maintain a permanent and continuous record, should be embodied in a triennial report, in which the results attained in successive periods on the different systems may be brought into effective comparison.

These recommendations were accepted by the Government of India, and only one annual report is being issued since 1899-1900 in place of two annual reports.

2. The canals in Bengal are for irrigation and navigation purposes and they are divided into two classes, *viz.*—Major Irrigation Works, and Minor Works and Navigation.

The Major Irrigation Works are—

| | |
|-----------------------|------------------|
| The Orissa canals. | The Sone canals. |
| „ Midnapore canal. | „ Tribeni canal. |
| „ Hijili Tidal canal. | „ Dhaka canal. |

and the Minor Works and Navigation are—

| | |
|----------------------------------|--------------------|
| The Calcutta and Eastern canals. | The Eden canal. |
| „ Orissa Coast canal. | „ Madhuban canal. |
| „ Saran canals. | „ Tirhut project. |
| „ Nadia rivers. | „ Damodar project. |
| „ Gaighatta and Buxi khals. | |

The Orissa, Midnapore and Sone canals are both for irrigation and navigation, while the Hijili Tidal canal is for navigation only.

The Tribeni and Dhaka canals are for irrigation only. They were sanctioned in the year 1900-01 and are now under construction. Under Minor Works, the Calcutta and Eastern canals, Orissa Coast canal, Nadia rivers and Gaighatta and Buxi khal are for navigation only, and the Saran canals, Eden Canal and Madhuban canal are for irrigation. The Tirhut project was designed for irrigation and the Damodar project for navigation. After some expenditure had been incurred, mostly on preliminary operations, it was considered advisable by Government to close the construction estimates of both projects.

The work on the Tirhut project has, therefore, been kept in abeyance since 1877-78, and that on the Damodar project was abandoned in 1871-72.

3. The Capital Account and financial results of the canals classed as Major Irrigation Works in operation up to end of the year 1901-1902 are shown in the following statements:—

(I) CAPITAL ACCOUNT.

| HEAD OF ACCOUNT. | Outlay to end of March 1899. | OUTLAY DURING— | | | Outlay to end of March 1902. |
|---|---------------------------------------|----------------|---------------|---------------|------------------------------------|
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| MAJOR IRRIGATION WORKS. | Rs. | Rs. | Rs. | Rs. | Rs. |
| IN OPERATION. | | | | | |
| <i>Direct Charges.</i> | | | | | |
| Works | 4,48,35,787 | 51,496 | 35,067 | 38,069 | 4,49,60,419 |
| Establishment | 1,24,10,450 | 9,773 | 7,586 | 8,335 | 1,24,36,144 |
| Tools and plant | 53,16,131 | (—)19,249 | (—)1,031 | 145 | 52,95,996 |
| Suspense | 35 | (—)35 | ... | ... | ... |
| Loss by exchange | 4,37,900 | ... | ... | ... | 4,37,900 |
| Total | 6,30,00,303 | 41,985 | 41,622 | 46,549 | 6,31,30,459 |
| Less—Receipts on Capital Account | 5,36,428 | 3,371 | ... | 30,243 | 5,70,042 |
| Total direct charges | 6,24,63,875 | 38,614 | 41,622 | 16,306 | 6,25,60,417 |
| Indirect charges | 17,50,443 | 1,567 | 1,611 | 2,031 | 17,55,652 |
| Total outlay, direct and indirect | 6,42,14,318 | 40,181 | 43,233 | 18,337 | 6,43,16,069 |

(II) FINANCIAL RESULTS.

| Item. | PARTICULARS. | Average of triennial period ending— | | Period under review. | | | Average of triennial period ending March 1903. |
|-------|--|-------------------------------------|-------------|----------------------|-------------|-------------|--|
| | | March 1898. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | MAJOR IRRIGATION WORKS. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| | <i>In Operation.</i> | | | | | | |
| | RECEIPTS. | | | | | | |
| 1 | Water-rates | 10,97,192 | 15,06,952 | 13,65,741 | 14,44,100 | 14,32,001 | 14,14,814 |
| 2 | Navigation | 3,92,683 | 4,05,308 | 3,75,670 | 2,70,194 | 2,37,493 | 2,94,452 |
| 3 | Miscellaneous | 80,784 | 92,010 | 88,323 | 90,037 | 1,00,518 | 94,929 |
| | Total | 15,70,660 | 19,84,365 | 18,29,734 | 18,00,331 | 17,70,011 | 18,04,325 |
| | Less—Refunds of revenue | 6,373 | 12,912 | 8,045 | 6,870 | 4,005 | 6,310 |
| 4 | Total Receipts | 15,64,287 | 19,71,453 | 18,21,688 | 17,93,461 | 17,72,006 | 17,98,015 |
| | WORKING EXPENSES. | | | | | | |
| | DIRECT CHARGES. | | | | | | |
| | <i>I.—Works.</i> | | | | | | |
| 5 | Extensions and improvements | 41,049 | 37,219 | 44,895 | 47,370 | 34,901 | 42,419 |
| 6 | Maintenance and repairs | 5,63,408 | 5,03,316 | 4,81,905 | 3,84,068 | 3,57,099 | 4,07,691 |
| 7 | Establishment (Direction and Accounts and Executive) | 3,87,194 | 4,02,893 | 4,00,138 | 4,23,650 | 4,00,115 | 4,00,601 |
| 8 | Tools and plant | 98,186 | 73,436 | 81,230 | 41,555 | 58,904 | 61,599 |
| | Total | 10,84,437 | 10,16,864 | 10,14,174 | 8,98,643 | 8,51,109 | 9,31,309 |
| | <i>II.—Revenue management.</i> | | | | | | |
| 9 | Irrigation establishment | 2,30,596 | 2,50,325 | 2,40,625 | 2,40,849 | 2,37,150 | 2,39,508 |
| 10 | Navigation ditto | 43,292 | 45,583 | 44,902 | 42,206 | 40,372 | 42,513 |
| | Total | 2,73,888 | 2,95,908 | 2,85,527 | 2,83,055 | 2,77,522 | 2,82,021 |
| 11 | Total Direct Charges | 13,58,325 | 13,12,772 | 12,99,601 | 11,81,698 | 11,28,631 | 12,13,330 |
| | INDIRECT CHARGES | | | | | | |
| 12 | Capitalised abatement of land revenue | ... | 14 | 4 | 357 | 73 | 144 |
| 13 | Leave and pension allowance | 98,366 | 97,832 | 96,827 | 96,786 | 94,899 | 96,827 |
| | Total | 98,366 | 97,846 | 96,831 | 96,142 | 94,911 | 96,971 |
| 14 | Total working expenses (direct and indirect) | 14,56,691 | 14,10,618 | 13,96,432 | 12,80,840 | 12,23,542 | 13,00,301 |
| 15 | Net revenue | 1,01,773 | 5,60,835 | 4,25,106 | 5,18,612 | 5,49,334 | 4,97,714 |
| 16 | Capital outlay (direct and indirect) | 3,30,12,873 | 6,41,99,433 | 6,42,64,499 | 6,42,07,732 | 6,43,16,069 | 6,42,89,433 |
| 17 | Percentage of net revenue on capital outlay | 0.16 | 0.87 | 0.66 | 0.81 | 0.85 | 0.77 |
| 18 | Area irrigated acres | 848,603 | 739,626 | 737,624 | 716,283 | 841,120 | 761,478 |
| 19 | Average water-rate (item 1) per acre irrigated | 1.00 | 1.89 | 1.88 | 2.02 | 1.70 | 1.86 |
| 20 | Total Irrigation establishment charges (items 7+9) per acre irrigated | 1.14 | 0.84 | 0.69 | 1.02 | 0.76 | 0.85 |
| 21 | Working expenses (direct and indirect) per acre irrigated | 2.67 | 1.91 | 1.92 | 1.79 | 1.45 | 1.70 |

4. The Capital Account of the Tribeni and Dhaka Canal Projects in progress is given below:—

| HEAD OF ACCOUNT. | Outlay to end of March 1900. | OUTLAY DURING— | | Outlay to end of March 1902. |
|---|------------------------------|----------------|------------|------------------------------|
| | | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 |
| MAJOR IRRIGATION WORKS. | Rs. | Rs. | Rs. | Rs. |
| 35.—CONSTRUCTION OF PROTECTIVE IRRIGATION WORKS. | | | | |
| <i>IN PROGRESS.</i> | | | | |
| <i>Direct charges.</i> | | | | |
| Works | 1,20,835 | 9,711 | 1,05,869 | 2,36,415 |
| Establishment | 21,381 | (—) 1342 | 42,751 | 63,690 |
| Tools and plant | ... | 1,570 | 1,15,522 | 1,17,093 |
| Suspense | ... | ... | 22,871 | 22,871 |
| Loss by Exchange | ... | ... | ... | ... |
| Total | 1,42,116 | 10,939 | 2,87,013 | 4,40,069 |
| Less—Receipts on Capital Account | ... | 44 | 117 | 161 |
| Total direct charges | 1,42,116 | 10,895 | 2,86,896 | 4,39,907 |
| Indirect charges | 2,980 | — 48 | 5,985 | 8,017 |
| Total outlay, direct and indirect | 1,45,096 | 10,847 | 2,92,881 | 4,47,924 |

5. The Capital Account and financial results of the canals classed as Minor Works and Navigation up to end of the year 1901-1902 are given below:—

Works for which Capital and Revenue Accounts are kept.

(I) CAPITAL ACCOUNT.

| HEAD OF ACCOUNT. | Outlay to end of March 1899. | OUTLAY DURING— | | | Outlay to end of March 1902. |
|--|------------------------------|----------------|------------|------------|------------------------------|
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| <i>Direct charges.</i> | Rs. | Rs. | Rs. | Rs. | Rs. |
| Works | 94,08,740 | 20,751 | 1,33,641 | 1,22,006 | 67,75,537 |
| Establishment | 20,34,582 | 4,374 | 30,747 | 24,412 | 20,93,005 |
| Tools and plant | 6,65,828 | 265 | (—) 95 | —925 | 6,62,443 |
| Suspense | 59,000 | —64,739 | 2,447 | —1,418 | 5,890 |
| Loss by Exchange | 847 | — | — | — | 847 |
| Total | 1,22,56,615 | —20,520 | 1,69,770 | 1,44,765 | 1,25,38,691 |
| Less—Receipts on Capital Account | 1,11,805 | 1,200 | 1,200 | 1,200 | 1,15,465 |
| Total direct charges | 1,21,44,750 | —20,720 | 1,68,570 | 1,43,565 | 1,24,23,156 |
| Indirect charges | 3,10,020 | 595 | 4,305 | 3,418 | 3,25,247 |
| Total outlay, direct and indirect | 1,24,61,670 | —30,124 | 1,69,875 | 1,46,983 | 1,27,48,403 |

NOTE—The canals for which Capital and Revenue Accounts are kept are—the Tihut and Damodar Projects (in abeyance and abandoned); the Calcutta and Eastern canals, the Orisa Canal and the Saran canal. (In operation.)

* This is the correct figure arrived at after adjusting the expenditure of Rs. 16,028 on the Saran Canal.

(II) FINANCIAL RESULTS.

| PARTICULARS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|--|-------------------------------------|-------------|----------------------|-------------|-------------|--|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| Item. | 1 | 2 | 3 | 4 | 5 | 6 |
| RECEIPTS. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1 Water-rate | 2,047 | 2,523 | 1,370 | —17 | — | 451 |
| 2 Navigation | 5,05,040 | 4,89,725 | 4,90,278 | 4,87,977 | 4,17,100 | 4,55,118 |
| 3 Miscellaneous | 18,315 | 22,140 | 18,185 | 19,223 | 17,140 | 18,183 |
| Total | 5,27,208 | 5,11,388 | 5,09,833 | 4,77,183 | 4,34,240 | 4,73,732 |
| 4 Less—Refunds of revenue | 2,014 | 1,857 | 809 | 137 | 101 | 340 |
| Total receipts | 5,25,194 | 5,09,531 | 5,09,024 | 4,77,046 | 4,34,139 | 4,73,408 |
| WORKING EXPENSES. | | | | | | |
| DIRECT CHARGES. | | | | | | |
| I.—Works. | | | | | | |
| 5 Extensions and improvements | 5,209 | 23,183 | (—) 16,015 | 761 | 2,904 | (—) 4,326 |
| 6 Maintenance and repairs | 2,18,370 | 1,80,041 | 1,09,558 | 1,90,280 | 1,71,510 | 1,87,110 |
| 7 Establishment (Direction and Accounts and Executive). | 69,163 | 28,570 | 79,217 | 50,741 | 55,187 | 61,715 |
| 8 Tools and plant | 21,481 | 20,478 | 31,149 | 10,717 | 37,744 | 29,596 |
| Total | 3,14,327 | 2,67,272 | 2,93,279 | 2,61,499 | 2,67,345 | 2,74,041 |
| II.—Revenue management. | | | | | | |
| 9 Irrigation establishment | — | — | — | — | — | — |
| 10 Navigation ditto | 46,909 | 46,323 | 47,066 | 48,018 | 46,346 | 47,743 |
| Total | 46,909 | 46,323 | 47,066 | 48,018 | 46,346 | 47,743 |
| Total direct charges | 3,61,236 | 3,13,595 | 3,41,245 | 3,10,417 | 3,13,691 | 3,21,784 |
| Indirect charges | 16,251 | 10,485 | 17,805 | 13,953 | 14,214 | 15,324 |
| 12 Total working expenses (direct and indirect) | 3,77,487 | 3,24,080 | 3,59,051 | 3,24,370 | 3,27,905 | 3,37,108 |
| 13 Net revenue | 1,47,707 | 1,85,451 | 1,49,973 | 1,52,676 | 1,00,234 | 1,36,296 |
| 14 Capital outlay (direct and indirect)* | 1,08,32,512 | 1,14,89,870 | 1,16,71,990 | 1,18,42,965 | 1,19,90,648 | 1,18,38,735 |
| 15 Percentage of net revenue on Capital outlay. | 1'40 | 1'61 | 1'28 | 1'39 | 0'88 | 1'15 |

* Exclusive of the outlay incurred in the Tihut and Damodar projects.

SUPPLEMENT TO THE CALCUTTA GAZETTE, DECEMBER 24, 1902. 1933

Works for which only Revenue Accounts are kept.

| PARTICULARS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|---|-------------------------------------|-------------|----------------------|------------|------------|--|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| RECEIPTS. | | | | | | |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Navigation | 1,46,807 | 94,000 | 1,14,592 | 1,05,302 | 90,085 | 1,03,290 |
| Miscellaneous | 436 | 245 | 819 | 108 | 231 | 389 |
| Total | 1,46,333 | 95,154 | 1,15,391 | 1,05,410 | 90,324 | 1,03,683 |
| Less—Refunds of revenue | 20 | 15 | 32 | 57 | 316 | 145 |
| Total Receipts | 1,46,313 | 95,139 | 1,15,359 | 1,05,353 | 90,008 | 1,03,538 |
| WORKING EXPENSES. | | | | | | |
| DIRECT CHARGES. | | | | | | |
| <i>I.—Works.</i> | | | | | | |
| Extensions and improvements | 83,260 | 77 | 51,680 | 4,320 | 66,467 | 2,075 |
| Maintenance and repairs | 37,641 | 55,332 | 30,179 | 31,120 | 15,231 | 58,904 |
| Establishment (Direction and Accounts and Revenue) | 1,033 | 1,717 | 1,055 | 1,417 | 1,154 | 1,508 |
| Tools and plant | 1,22,543 | 82,810 | 63,794 | 98,348 | 81,849 | 87,097 |
| Total | 1,22,543 | 82,810 | 63,794 | 98,348 | 81,849 | 87,097 |
| <i>II.—Revenue management.</i> | | | | | | |
| Navigation establishment | 20,956 | 23,870 | 22,627 | 22,941 | 23,007 | 23,825 |
| Total direct charges | 1,43,499 | 1,06,680 | 1,06,321 | 1,21,289 | 1,04,856 | 1,10,922 |
| Indirect charges | 9,043 | 6,939 | 7,378 | 7,509 | 5,354 | 5,767 |
| Total working expenses (direct and indirect) | 1,52,542 | 1,13,619 | 1,13,699 | 1,28,798 | 1,10,210 | 1,16,689 |
| Net revenue | (-)12,229 | (-)18,480 | 1,019 | (-)23,435 | (-)20,202 | (-)13,151 |

NOTE.—The works for which only Revenue Accounts are kept are the Nadia Rivers and Gajghata and Buxi khal.

Works for which neither Capital nor Revenue Accounts are kept.

| PARTICULARS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|--------------------------------|-------------------------------------|-------------|----------------------|------------|------------|--|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| RECEIPTS. | | | | | | |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Water rate | 32,127 | 33,832 | 25,842 | 26,640 | 27,806 | 26,729 |
| Miscellaneous | 619 | 508 | 1,292 | 1,000 | 1,230 | 1,144 |
| Total | 32,746 | 34,340 | 27,044 | 27,640 | 29,036 | 27,873 |
| Less—Refunds of revenue | 325 | 387 | 79 | 107 | 2 | 63 |
| Total receipts | 32,421 | 33,953 | 26,965 | 27,533 | 29,034 | 27,810 |
| WORKING EXPENSES. | | | | | | |
| New works | 5,580 | 36,405 | 133 | 2,223 | ... | 809 |
| Maintenance and repairs | 37,429 | 27,102 | 30,149 | 28,187 | 31,818 | 30,051 |
| Establishment | 16,222 | 20,785 | 11,825 | 11,646 | 14,598 | 12,090 |
| Tools and plant | 712 | 409 | 444 | 541 | 560 | 512 |
| Total | 59,743 | 78,601 | 42,551 | 42,607 | 47,086 | 44,062 |
| Net revenue | (-)27,322 | (-)44,648 | (-)15,586 | (-)15,074 | (-)18,052 | (-)16,252 |

NOTE.—The works for which neither Capital nor Revenue Accounts are kept are the Eden Canal and Madhuban Canal.

6. The areas irrigated by the Major Irrigation Works during the triennial period under review and the two previous periods are shown in the following statement :—

| | ORISSA CANALS. | | | MIDNAPORE CANAL. | | | SONB CANALS. | | | TOTAL. | | |
|---|----------------------------------|--------|---------|-----------------------------------|--------|--------|----------------------------------|---------|---------|----------------------------------|---------|---------|
| | Kharif inclusive of hot-weather. | Rabi. | Total. | Kharif. inclusive of hot-weather. | Rabi. | Total. | Kharif inclusive of hot-weather. | Rabi. | Total. | Kharif inclusive of hot-weather. | Rabi. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| Average for the triennial period ending March 1896... | 110,211 | 4,071 | 115,189 | 71,581 | 2,129 | 73,710 | 285,222 | 74,459 | 359,711 | 467,014 | 81,589 | 548,603 |
| Ditto ditto ditto | | | | | | | | | | | | |
| ending March 1899 ... | 183,364 | 8,468 | 191,832 | 60,377 | 1,945 | 71,322 | 331,531 | 142,032 | 473,466 | 586,275 | 153,345 | 739,620 |
| Year 1899-1900 ... | 197,441 | 3,997 | 201,438 | 71,309 | 707 | 72,105 | 330,795 | 123,208 | 454,073 | 599,034 | 197,393 | 796,427 |
| .. 1900-1901 ... | 168,134 | 5,406 | 173,540 | 79,421 | 901 | 80,330 | 341,429 | 90,864 | 432,413 | 618,992 | 97,391 | 716,383 |
| .. 1901-1902 ... | 199,168 | 2,330 | 201,498 | 81,803 | 250 | 82,134 | 362,081 | 106,413 | 468,494 | 645,117 | 198,000 | 843,117 |
| Average of the triennial period ending March 1902 ... | 198,248 | 3,707 | 201,955 | 97,505 | 626 | 98,130 | 344,768 | 136,505 | 481,333 | 620,581 | 140,897 | 761,478 |

7. The results of the working of each of the canal systems of the Province during the triennial period will now be treated of separately.

MAJOR IRRIGATION WORKS.

ORISSA CANALS.

8. The Capital outlay and other particulars of these Canals are given below :—

TABLE I.—CAPITAL ACCOUNT.

| HEAD OF ACCOUNT. | Outlay to end of March 1899. | OUTLAY DURING— | | | Outlay to end of Mar. 1902. |
|--|------------------------------------|----------------|------------|------------|-----------------------------------|
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | Rs. | Rs. | Rs. | Rs. | Rs. |
| DIRECT CHARGES. | | | | | |
| Works | 1,88,53,980 | 32,332 | 26,242 | 32,764 | 1,89,45,319 |
| Establishment | 46,81,444 | 7,242 | 5,614 | 7,116 | 47,01,416 |
| Tools and plant | 20,71,667 | — 674 | 173 | 126 | 20,71,292 |
| Suspense | 12 | — 12 | ..... | ..... | ..... |
| Loss by exchange | 2,68,070 | ..... | ..... | ..... | ..... |
| Total | 2,58,75,173 | 38,888 | 32,030 | 40,006 | 2,59,86,097 |
| Less—Receipts on capital account | 86,795 | ..... | ..... | 4,983 | 91,778 |
| Total direct charges | 2,57,88,378 | 38,888 | 32,030 | 35,023 | 2,58,94,319 |
| Indirect charges | 5,84,773 | 1,213 | 1,335 | 1,861 | 5,89,182 |
| Total outlay, direct and indirect | 2,63,73,151 | 40,101 | 33,365 | 36,884 | 2,64,83,501 |

The construction estimate of these canals is closed. The outlay during the triennial period under review, chargeable to the open Capital Account under the head 43—Minor Works and Navigation Provincial, was incurred mainly on the construction of permanent outlets, minor distributaries and drainage works. On the construction of the Dudhai Canal in the Cuttack District, an estimate for which amounting to Rs. 81,797 was sanctioned by the Government of India in October 1901 chargeable under the same head, Rs. 16,392 were expended during the year 1901-1902. The work is in progress.

9. TABLE II.—LENGTHS OF CHANNELS.

| DESCRIPTION OF CHANNEL. | LENGTH OF CHANNEL IN MILES. | | | | At end of Mar. 1902. |
|---|-----------------------------|------------------------------|------------|------------|-------------------------|
| | At end of March 1899. | Increase or decrease during— | | | |
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Navigable canals (both for irrigation and navigation) ... Miles | 204½ | Nil | Nil | Nil | 204½ |
| Branch canals (for irrigation only) ... | 75 | Nil | Nil | Nil | 75 |
| Distributaries (with minor channels) ... | 1,101½ | + 4½ | + 17 | + 9½ | 1,132½ |
| Village channels | Nil | Nil | Nil | Nil | Nil |
| Permanent outlets No. | 559 | + 918 | + 538 | + 708 | 2,723 |
| Temporary „ | 5,601 | — 768 | — 80 | — 6 | 4,747 |
| Drainage channels Miles | 279½ | Nil | 11 | Nil | 290½ |
| Area protected from flood ... Acres | 562,114 | Nil | Nil | Nil | 562,114 |
| Gross area under command | 596,878 | Nil | + 914 | Nil | 597,792 |

There was no change in the lengths of the main and branch canals during the triennial period. In distributaries there was an increase of 31½ miles, owing to the construction of several minor channels. The increased length will supply water to lands not previously leased.

The permanent outlets increased from 559 to 2,723 and the temporary outlets decreased from 5,601 to 4,747. The drainage channels increased by 11 miles. In the area under command an addition of 914 acres was made in the year 1900-1901.

10.

TABLE III.—FINANCIAL RESULTS.

| Item. | PARTICULARS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|-------|--|-------------------------------------|-------------|----------------------|-------------|-------------|--|
| | | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | RECEIPTS. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1 | Water-rates ... | 2,09,247 | 2,77,963 | 2,67,083 | 2,87,812 | 2,39,035 | 2,64,643 |
| 2 | Navigation ... | 1,42,497 | 1,92,676 | 1,47,689 | 90,485 | 78,153 | 1,05,442 |
| 3 | Miscellaneous ... | 23,879 | 28,871 | 27,725 | 30,591 | 31,818 | 30,045 |
| | Total ... | 3,75,623 | 4,99,510 | 4,42,497 | 4,08,888 | 3,49,006 | 4,00,130 |
| | Less—Refunds of revenue ... | 785 | 2,722 | 1,440 | 743 | 1,224 | 1,136 |
| 4 | Total Receipts ... | 3,74,838 | 4,96,788 | 4,41,057 | 4,08,145 | 3,47,782 | 3,98,994 |
| | WORKING EXPENSES. | | | | | | |
| | DIRECT CHARGES. | | | | | | |
| | <i>I.—Works.</i> | | | | | | |
| 5 | Extensions and improvements | 13,557 | 11,743 | 20,596 | 14,896 | 12,057 | 15,850 |
| 6 | Maintenance and repairs ... | 2,16,557 | 2,05,052 | 1,63,163 | 1,44,059 | 1,41,182 | 1,49,468 |
| 7 | Establishment (Direction and Accounts and Executive). | 1,24,479 | 1,49,881 | 1,52,546 | 1,63,141 | 1,47,721 | 1,54,469 |
| 8 | Tools and plant ... | 27,132 | 22,850 | 26,683 | 16,367 | 14,405 | 19,152 |
| | Total ... | 3,81,725 | 3,89,526 | 3,62,988 | 3,38,463 | 3,15,365 | 3,38,939 |
| | <i>II.—Revenue management.</i> | | | | | | |
| 9 | Irrigation establishment ... | 68,969 | 70,026 | 62,734 | 63,600 | 63,412 | 63,249 |
| 10 | Navigation ditto .. | 16,919 | 17,490 | 17,944 | 15,603 | 15,099 | 16,215 |
| | Total ... | 85,888 | 87,516 | 80,678 | 79,203 | 78,511 | 79,464 |
| 11 | Total Direct Charges ... | 4,67,613 | 4,77,042 | 4,43,666 | 4,17,666 | 3,93,876 | 4,18,403 |
| | INDIRECT CHARGES. | | | | | | |
| 12 | Capitalised abatement of land revenue. | ... | 14 | 4 | 357 | 72 | 144 |
| 13 | Leave and pension allowances | 29,451 | 33,236 | 32,651 | 33,928 | 31,672 | 32,750 |
| | Total ... | 29,451 | 33,250 | 32,655 | 34,285 | 31,744 | 32,894 |
| 14 | Total working expenses (direct and indirect). | 4,97,064 | 5,10,292 | 4,76,321 | 4,51,951 | 4,25,620 | 4,51,297 |
| 15 | Net revenue ... | —1,22,226 | —13,504 | —35,264 | —43,806 | —77,838 | —52,303 |
| 16 | Capital outlay (direct and indirect). | 2,61,20,830 | 2,63,04,107 | 2,64,13,252 | 2,64,46,617 | 2,64,83,501 | 2,64,47,790 |
| 17 | Percentage of net revenue on capital outlay. | —0·47 | —0·05 | —0·13 | —0·17 | —0·29 | —0·19 |
| 18 | Area irrigated Acres ... | 115,182 | 191,832 | 200,828 | 203,540 | 201,498 | 201,955 |
| 19 | Average water-rate (item 1) per acre irrigated. | 1·82 | 1·45 | 1·33 | 1·41 | 1·18 | 1·31 |
| 20 | Total Irrigation establishment charges (items 7—9) per acre irrigated. | 1·68 | 1·14 | 1·07 | 1·11 | 1·04 | 1·08 |
| 21 | Working expenses (direct and indirect) per acre irrigated. | 4·31 | 2·66 | 2·37 | 2·22 | 2·11 | 2·23 |

* Includes Rs. 371 on account of compensation.

There was a considerable decrease in navigation receipts owing mainly to the opening of the Bengal-Nagpur Railway and the consequent withdrawal of the Government transport service. The working expenses, however, showed a considerable falling off during the triennial period compared with the previous periods ending March 1896 and 1899. The decrease was mainly due to the absence of high floods in the rivers.

TABLE III(a)—INTEREST.

11. The interest charges for and up to the end of the triennial period are given below :—

| | To end of March 1899. | PERIOD UNDER REVIEW. | | | To end of March 1902. |
|----------------------|--------------------------|----------------------|------------------|------------------|--------------------------|
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| | | 1 | 2 | 3 | 4 | 5 |
| Interest charges ... | Rs. 2,37,97,193 | Rs 10,32,313 | Rs. 10,33,692 | Rs. 10,34,949 | Rs. 2,68,98,147 |

12. TABLE IV.—RAINFALL.

| 1 | | AVERAGES OF 13 STATIONS. | | | | Average of 18 years ending March 1902. |
|----------------|----------------|--|----------------------|------------|------------|--|
| | | Average of fifteen years ending March 1899. | Period under review. | | | |
| | | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 2 | | 3 | 4 | 5 | 6 | |
| Inches. | | Inches. | Inches. | Inches. | Inches. | |
| Kharif season | { July ... | 11.35 | 9.10 | 13.30 | 10.95 | 11.31 |
| | { August ... | 12.26 | 9.54 | 22.27 | 9.02 | 12.48 |
| | { September .. | 10.26 | 4.69 | 18.03 | 8.25 | 10.27 |
| | { October ... | 5.54 | 9.67 | 6.98 | 3.84 | 5.73 |
| Total ... | | 39.41 | 33.00 | 60.58 | 31.56 | 39.79 |
| Rabi season | { November ... | 2.20 | Nil | 0.03 | 7.57 | 2.25 |
| | { December ... | 0.15 | 0.06 | 0.01 | Nil | 0.13 |
| | { January ... | 0.32 | Nil | 1.75 | 0.17 | 0.37 |
| | { February ... | 0.75 | 0.40 | 2.61 | Nil | 0.80 |
| Total ... | | 3.42 | 0.46 | 4.40 | 7.74 | 3.55 |
| Whole year ... | | 58.71 | 54.50 | 75.85 | 46.91 | 58.78 |

The rainfall during the year 1901-1902 was considerably less than that of the previous year and the average of 18 years. It was, however, well distributed in the Cuttack District but not so in the Balasore District, which led to the wholesale renewal of leases of the large area which lapsed on the 31st March 1901 on the High Level Canal, Range III. The average rainfall recorded at nine stations in the Central Provinces, from which area of country the Mahanadi river derives the greater part of its supply, was 41.65 inches in 1901-1902, 68.08 inches in 1900-1901, and 37.66 inches in 1899-1900.

13.

TABLE V.—AREAS IRRIGATED.

| YEAR. | Kharif (inclusive of Hot- weather.) | Rabi. | Total. | RAINFALL. | | |
|-----------------------|--|--------|---------|-------------------|--------------|---------|
| | | | | Kharif season. | Rabi season. | Year. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Acres. | Acres. | Acres. | Inches. | Inches. | Inches. |
| 1893-94 ... | 100,622 | 2,904 | 103,526 | 38.05 | 6.29 | 74.83 |
| 1894-95 ... | 118,459 | 4,102 | 122,561 | 39.09 | 3.72 | 58.91 |
| 1895-96 ... | 111,551 | 7,909 | 119,460 | 38.63 | 0.41 | 63.12 |
| Triennial average ... | 110,211 | 4,971 | 115,182 | 38.59 | 1.47 | 65.62 |
| 1896-97 ... | 171,748 | 13,300 | 185,048 | 39.00 | 2.91 | 65.86 |
| 1897-98 ... | 188,587 | 7,016 | 195,602 | 42.73 | 1.91 | 55.99 |
| 1898-99 ... | 189,758 | 5,089 | 194,847 | 46.86 | 0.61 | 58.87 |
| Triennial average ... | 183,364 | 8,468 | 191,832 | 42.86 | 1.81 | 60.24 |
| 1899-1900 ... | 197,441 | 3,387 | 200,828 | 33.00 | 0.46 | 54.50 |
| 1900-1901 ... | 198,134 | 5,406 | 203,540 | 60.58 | 4.40 | 75.85 |
| 1901-1902 ... | 199,168 | 2,330 | 201,498 | 31.56 | 7.74 | 46.91 |
| Triennial average ... | 198,248 | 3,707 | 201,955 | 41.70 | 4.20 | 59.09 |

The average area irrigated during the triennial period under review was about 10,000 acres more than that of the previous period, and nearly double that of the period ended March 1896.

TABLE VI.—AREAS IRRIGATED BY LEASES.

| CROP. | | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period end- ing March 1902. |
|-----------------|-------------------------------|--|----------------|----------------------|------------|------------|--|
| | | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 |
| | | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| Kharif... | { Long-term leases ... | 109,499 | 181,403 | 195,075 | 197,074 | 196,131 | 196,094 |
| | { Season leases ... | 394 | 1,961 | 1,574 | 569 | 2,583 | 1,575 |
| | { Sale by volume ... | ... | ... | ... | ... | ... | ... |
| | { Unauthorised irrigation ... | 318 | ... | ... | ... | 343 | 114 |
| Total ... | | 110,211 | 183,364 | 196,649 | 197,643 | 199,057 | 197,783 |
| Rabi ... | { Long-term leases ... | ... | ... | ... | ... | ... | ... |
| | { Season leases ... | 4,971 | 8,468 | 3,387 | 5,406 | 2,330 | 3,708 |
| | { Unauthorised irrigation ... | ... | ... | ... | ... | ... | ... |
| Total ... | | 4,971 | 8,468 | 3,387 | 5,406 | 2,330 | 3,708 |
| Hot weather | { Season leases ... | ... | ... | 792 | 491 | 111 | 464 |
| | { Unauthorised irrigation ... | ... | ... | ... | ... | ... | ... |
| Total ... | { Long-term leases ... | 109,499 | 181,403 | 195,075 | 197,074 | 196,131 | 196,094 |
| | { Season leases ... | 5,365 | 10,429 | 5,753 | 6,466 | 5,024 | 5,747 |
| | { Others ... | 318 | ... | ... | ... | 343 | 114 |
| GRAND TOTAL ... | | 115,182 | 191,832 | 200,828 | 203,540 | 201,498 | 201,955 |

The area under long term lease practically remained stationary during the triennial period. This area was however, considerably more than the averages of the triennial periods ending March 1896 and 1899. In 1901-02, 343 acres of kharif were irrigated in an unauthorized manner, and the amount Rs. 816 assessed for it was realized in full. There was no sale of water by volume for irrigation purposes during the period under review.

TABLE VII.—AREAS IRRIGATED BY DIVISIONS.

| DIVISION AND YEAR. | Long-term leases. | SEASON LEASES. | | | Total. | RAINFALL. | | |
|------------------------------|-----------------------|----------------|--------------|--------------|---------------|----------------|--------------|---------------|
| | | Kharif. | Rabi. | Hot weather. | | Kharif Season. | Rabi Season. | YEAR. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| MAHANADI DIVISION | 1899-1900 | Acres. 54,407 | Acres. 1,278 | Acres. 19 | Acres. 55,704 | Inches. 30·86 | ... | Inches. 49·19 |
| | 1900-1901 | 55,358 | 116 | 16 | 55,490 | 57·78 | 3·69 | 70·46 |
| | 1901-1902 | 42,820 | 255 | 24 | 43,099 | 33·34 | 7·23 | 47·54 |
| | Triennial average ... | 50,867 | 550 | 20 | 51,431 | 40·66 | 3·64 | 55·73 |
| BRAHMINI BYTURNI DIVISION | 1899-1900 | 74,347 | 238 | 18 | 74,604 | 34·19 | 0·25 | 59·61 |
| | 1900-1901 | 75,417 | ... | 342 | 75,759 | 60·11 | 3·01 | 72·59 |
| | 1901-1902 | 79,100 | 1,819 | 72 | 80,991 | 28·41 | 8·15 | 44·79 |
| | Triennial average ... | 76,288 | 686 | 144 | 77,118 | 40·90 | 3·80 | 59·00 |
| AKHOYAPADA-JAJ-PUR DIVISION. | 1899-1900 | 66,321 | 57 | 3,350 | 70,520 | 34·97 | 1·05 | 59·17 |
| | 1900-1901 | 66,299 | 453 | 5,048 | 72,291 | 63·77 | 5·15 | 82·24 |
| | 1901-1902 | 74,211 | 852 | 2,234 | 77,408 | 30·77 | 5·00 | 46·08 |
| | Triennial average ... | 68,944 | 454 | 3,544 | 73,406 | 42·17 | 3·73 | 62·50 |

In a few cases in the Brahmini-Byturni and Akhoyapada-Jajpur Divisions the provisional leases have not yet been converted into long lease. The area shown under lease will probably be slightly affected when these are completed.

TABLE VIII.—LONG-TERM LEASES.

| DIVISION. | Leases lapsed on 31st March 1899. | 1899-1900. | | Leases lapsed on 31st March 1900. | 1900-1901. | | Leases lapsed on 31st March 1901. | 1901-1902. | |
|------------------|-----------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--------------------------------------|-------------------------------------|
| | | Leases entered into during the year. | Total area under lease in the year. | | Leases entered into during the year. | Total area under lease in the year. | | Leases entered into during the year. | Total area under lease in the year. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| MAHANADI ... | Acres. 14,188 | Acres. 17,400 | Acres. 54,407 | Acres. 3,467 | Acres. 3,585 | Acres. 55,532 | Acres. 25,864 | Acres. 13,856 | Acres. 43,524 |
| BRAH. BYTURNI .. | 11,057 | 11,715 | 74,347 | 13,954 | 15,024 | 75,417 | 8,828 | 12,510 | 79,099 |
| AKHOY-JAJPUR .. | 1,904 | 5,483 | 66,321 | 2,417 | 2,328 | 66,232 | 29,478 | 37,457 | 74,211 |
| Total ... | 27,149 | 34,598 | 195,075 | 19,838 | 20,937 | 197,181 | 64,170 | 63,823 | 196,834 |

In the Mahanadi Division nearly one-half of the lapsed leases has not been renewed. The greater portion of this area is under the new distributaries of the Taldunda and Machgong Canals. The land being low canal water is not required except in a year of drought. There was rain in the critical time in October, and no fresh lease was applied for. In the Brahmini-Byturni and Akhoyapada-Jajpur Divisions much larger areas than those lapsed were secured.

15.

TABLE X.—CROP EXPERIMENTS—RICE.

RESULT OF EXPERIMENTS ON "GOOD" RICE CROPS, IRRIGATED WITH CANAL WATER.

| DIVISION. | 1899-1900 | | | 1900-1901. | | | 1901-1902. | | |
|---------------------------|------------------------|--------------------------------------|--------|------------------------|--------------------------------------|--------|------------------------|--------------------------------------|--------|
| | Number of experiments. | AVERAGE YIELD PER ACRE, WEIGHED DRY. | | Number of experiments. | AVERAGE YIELD PER ACRE, WEIGHED DRY. | | Number of experiments. | AVERAGE YIELD PER ACRE, WEIGHED DRY. | |
| | | Unhusked grain. | Straw. | | Unhusked grain. | Straw. | | Unhusked grain. | Straw. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. |
| | | Nil. | | | Nil. | | | Nil. | |
| Average Orissa Circle ... | | Nil. | | | Nil. | | | Nli. | |

RESULT OF EXPERIMENTS ON "AVERAGE" RICE CROPS, IRRIGATED WITH CANAL-WATER.

| | No. | Mds. | Srs. | Mds. | No. | Mds. | Srs. | Mds. | No. | Mds. | Srs. | Mds. |
|-------------------------------|-----|------|------|------|-----|------|------|------|-----|------|------|------|
| Mahanadi Division .. | 15 | 22 | 11 | 36 | 16 | 22 | 24 | 44 | 15 | 21 | 28 | 41 |
| Brahmini Byturni Division ... | 24 | 28 | 8 | 48 | 22 | 30 | 36 | 52 | 25 | 23 | 32 | 39 |
| Akhoyapada-Jajpur Division... | 25 | 22 | 12 | 39 | 22 | 23 | 12 | 44 | 25 | 23 | 12 | 46 |
| Average Orissa Circle ... | 64 | 24 | 10 | 41 | 60 | 25 | 36 | 47 | 65 | 22 | 37 | 42 |

RESULT OF EXPERIMENTS ON "GOOD" RICE CROPS, IRRIGATED WITHOUT CANAL-WATER.

Nil.

RESULT OF EXPERIMENTS ON "AVERAGE" RICE CROPS, GROWN WITHOUT CANAL-WATER.

| | No. | Mds. | Srs. | Mds. | No. | Mds. | Srs. | Mds. | No. | Mds. | Srs. | Mds. |
|-------------------------------|-----|------|------|------|-----|------|------|------|-----|------|------|------|
| Mahanadi Division ... | 18 | 17 | 6 | 36 | 9 | 20 | 28 | 30 | 11 | 16 | 32 | 40 |
| Brahmini Byturni Division ... | 26 | 19 | 5 | 39 | 25 | 23 | 8 | 31 | 25 | 15 | 28 | 30 |
| Akhoyapada-Jajpur Division... | 27 | 18 | 24 | 31 | 26 | 18 | 0 | 30 | 22 | 15 | 8 | 33 |
| Average Orissa Circle ... | 71 | 18 | 12 | 35. | 60 | 20 | 25 | 30 | 58 | 15 | 36 | 34 |

A "good" crop is one decidedly above the ordinary crop in the village in which the experiment is taken.
 An "average" crop is one considered a fair average of the whole crop in the village in which the experiment is taken.

TABLE XI.—CROP EXPERIMENTS—RABI.

The Rabi irrigation is not important in the Orissa Circle, and no experiments were made on that crop.

TABLE XII.—RELATIVE VALUE, IRRIGATED AND UNIRRIGATED CROPS.

| DIVISION. | RICE. | | | | | |
|---------------------------|---|--|---|--|---|--|
| | 1899-1900. | | 1900-1901. | | 1901-1902. | |
| | Value of outturn to cultivators per acre from irri- gated lands. | Value of outturn to cultivators per acre from lands not irri- gated. | Value of outturn to cultivators per acre from irri- gated lands. | Value of outturn to cultivators per acre from lands not irri- gated. | Value of outturn to cultivators per acre from irri- gated lands. | Value of outturn to cultivators per acre from lands not irri- gated. |
| | Grain=17 seers per rupee. Straw=9 maunds per rupee. | Grain=17 seers per rupee. Straw=9 maunds per rupee. | Grain=18 seers per rupee. Straw=9 maunds per rupee. | Grain=18 seers per rupee. Straw=9 maunds per rupee. | Grain=20 seers per rupee. Straw=9 maunds per rupee. | Grain=20 seers per rupee. Straw=9 maunds per rupee. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Mahanadi Division ... | 39 | 32 | 38 | 35 | 32 | 26 |
| Brahmini Byturni „ .. | 50 | 35 | 53 | 36 | 34 | 23 |
| Akhoyapada Jaipur „ ... | 39 | 31 | 41 | 30 | 35 | 24 |
| Average Orissa Circle ... | 43 | 32 | 43 | 35 | 34 | 24 |

NOTE.—The prices given here are those of husked rice.

The following supplementary table shows the average outturn from irrigated and unirrigated lands as well as the prices realized by the cultivators during the two preceding triennial periods *vide* Government of India's letter No. 1136 C. W. I., dated 2nd October 1901 :—

TABLE XII. (a).—AVERAGE OUTTURN FROM IRRIGATED AND UNIRRIGATED LANDS.

| | No. of experiment Irrigated. | IRRIGATED. | | No. of experiments unirrigated. | UNIRRIGATED. | | IRRIGATED VALUE. | | UNIRRIGATED VALUE. | |
|---------------------------------|---------------------------------|------------|-----------|------------------------------------|--------------|-----------|------------------|----------|--------------------|----------|
| | | Rice. | Straw. | | Rice. | Straw. | Rice. | Straw. | Rice. | Straw. |
| 1893-94 ... | 214 Rice. 397 Straw. 394 | Md. 11.30 | Md. 24.56 | 105 Rice. 100 Straw. 100 | Md. 9.06 | Md. 21.62 | Rs. 25.29 | Rs. 2.73 | Rs. 20.25 | Rs. 2.40 |
| 1894-95 ... | ... | 19.59 | 50.38 | ... | 17.68 | 37.91 | 32.86 | 5.60 | 29.82 | 4.24 |
| 1895-96 ... | 124 122 | 17.00 | 37.00 | 60 60 | 15.00 | 33.00 | 26.00 | 4.00 | 23.00 | 4.00 |
| Total ... | ... | 47.89 | 111.94 | ..... | 41.74 | 92.53 | 84.15 | 12.33 | 73.07 | 10.64 |
| 1/2 of Rice ... | ..... | 23.94 | ... | ..... | 20.87 | ... | 42.07 | ... | 36.53 | ... |
| Total ... | ..... | 71.83 | 111.94 | ..... | 62.61 | 92.53 | 126.22 | 12.33 | 109.60 | 10.64 |
| Average of Triennial period ... | ..... | 23.94 | 37.31 | ..... | 20.87 | 30.84 | 42.07 | 4.11 | 36.53 | 3.55 |
| 1896-97 ... | 82 | 17.00 | 38.00 | 56 | 14.00 | 33.00 | 32.40 | 4.20 | 26.60 | 3.70 |
| 1897-98 ... | 77 | 17.00 | 29.00 | 60 | 15.00 | 28.00 | 32.00 | 3.00 | 27.30 | 3.00 |
| 1898-99 ... | 66 | 14.00 | 37.00 | 57 | 9.00 | 22.00 | 28.00 | 4.00 | 18.00 | 2.00 |
| Total ... | ... | 48.00 | 104.00 | ..... | 38.00 | 83.00 | 92.40 | 11.20 | 71.90 | 8.70 |
| 1/2 of Rice ... | ..... | 24.00 | ... | ..... | 19.00 | ... | 46.20 | ... | 35.95 | ... |
| Total ... | ..... | 72.00 | 104.00 | ..... | 57.00 | 83.00 | 138.60 | 11.20 | 107.85 | 8.70 |
| Average of Triennial period ... | ..... | 24.00 | 35.00 | ..... | 19.00 | 28.00 | 46.20 | 3.73 | 35.95 | 2.90 |

In previous year the weight of rice, i. e., husked grain used to be shown as 1/2 of paddy.
To convert those quantities into paddy add 50 per cent. of the outturn shown as rice.

16. TABLE XIII.—ASSESSMENTS, REMISSIONS, AND COLLECTIONS.

| Number of item. | HEADS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period, ending March 1902. |
|-----------------|--|-------------------------------------|-------------|----------------------|------------|------------|---|
| | | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1 | Opening balance of the year... | 61,769 | 13,201 | ... | ... | ... | ... |
| 2 | Assessment added during the year. | 1,97,000 | 2,75,076 | 2,67,976 | 2,89,305 | 2,45,234 | 2,67,505 |
| 3 | Surplus and excess recoveries | ... | ... | 61 | 14 | 19 | 31 |
| | Total ... | 2,58,769 | 2,88,277 | 2,68,037 | 2,89,319 | 2,45,253 | 2,67,536 |
| 4 | Ordinary remissions ... | 4,578 | 8,182 | 923 | 1,499 | ... | 807 |
| 5 | Extraordinary remissions ... | ... | ... | ... | ... | 70 | 23 |
| | Deduction ... | 4,578 | 8,182 | 923 | 1,499 | 70 | 830 |
| 6 | Net demand (including arrears). | 2,54,191 | 2,80,095 | 2,67,114 | 2,87,820 | 2,45,183 | 2,66,706 |
| 7 | Irrecoverable ... | 1,666 | 379 | 31 | 8 | 7 | 16 |
| 8 | Written off under special sanction. | | | | | | |
| 9 | Actually collected ... | 2,09,247 | 2,77,963 | 2,67,022 | 2,87,798 | 2,39,016 | 2,64,612 |
| 10 | Surplus and excess recoveries | ... | ... | 61 | 14 | 19 | 31 |
| 11 | Total Collections and Adjustments. | 2,10,913 | 2,78,342 | 2,67,114 | 2,87,820 | 2,39,042 | 2,64,659 |
| 12 | Outstanding balance (line 6—line 11). | 43,278 | 1,753 | ... | ..... | 6,141 | 2,047 |
| 13 | Percentage of collection (11) to net demand (6). | 82.9 | 99.4 | 100 | 100 | 97.8 | 99.2 |
| 14 | Number of certificates issued | 4,949 | 1,336 | 352 | 363 | 305 | 340 |

The apparent falling off in the current demand during the year 1901-02 is attributable to the fact that some provisional leases, the assessment for which amounted to Rs. 14,943 were not completed during the year. It also excludes Rs. 13,142, for which leases were received by the Deputy Collector between the 26th and 31st March, so that receipts could not be written up and issued before the end of the year. Including these two amounts the assessment of the year amounted to Rs. 2,73,319. The total demand brought to account was collected with the exception of Rs. 6,141, for which leases were received by the Deputy Collector towards the close of March. The average collections during the triennial period under review were Rs. 13,351 less than the realization in the preceding period and Rs. 55,365 more than was realized during the period ending March 1896. The decrease in the number of certificates issued is satisfactory. Of the 305 certificates issued during the year 1901-02, 297 were satisfied, one was struck off and 7 were pending at the end of the year. The amount involved was Rs. 3,669 or on an average of Rs. 12 per certificate.

17.

TABLE XIV.—CLAIMS AND COMPLAINTS.

| YEAR. | DIVISION. | I.—CLAIMS FOR ORDINARY REMISSIONS. | | | II TO V.—OTHER COMPLAINTS. | | | TOTAL OF THE YEAR. | | |
|-----------|-----------------------|------------------------------------|----------|----------|----------------------------|----------|----------|--------------------|----------|----------|
| | | Allowed. | Refused. | Pending. | Admitted. | Refused. | Pending. | Admitted. | Refused. | Pending. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 1899-1900 | Mahanadi ... | No. 80 | No. 115 | No. 12 | No. 28 | No. 29 | No. ... | No. 108 | No. 144 | No. 12* |
| | Brahmini Byturni ... | 32 | 76 | 3 | 4 | 16 | 2 | 36 | 92 | 5 |
| | Akhoyapada Jajpur ... | 112 | 81 | 1 | 10 | 5 | 2 | 122 | 86 | 3 |
| | Canal Revenue ... | 176 | 63 | ... | 2 | 1 | ... | 178 | 64 | ... |
| | Total ... | 400 | 335 | 16 | 44 | 51 | 4 | 444 | 386 | 20 |
| 1900-1901 | Mahanadi ... | 60 | 80 | 1 | 13 | 29 | 1 | 73 | 109 | 2 |
| | Brahmini Byturni ... | 88 | 100 | ... | 11 | 22 | ... | 99 | 122 | ... |
| | Akhoyapada Jajpur ... | 35 | 44 | ... | 13 | 24 | 8 | 48 | 68 | 8 |
| | Canal Revenue ... | 396 | 145 | 1 | ... | 4 | ... | 396 | 149 | 1 |
| | Total ... | 579 | 369 | 2 | 37 | 79 | 9 | 616 | 448 | 11 |
| 1901-1902 | Mahanadi ... | 58 | 83 | 1 | 2 | 7 | 1 | 60 | 90 | 2 |
| | Brahmini Byturni ... | 57 | 44 | 1 | 16 | 28 | 9 | 73 | 72 | 10 |
| | Akhoyapada Jajpur ... | 31 | 24 | 3 | 11 | 22 | ... | 42 | 46 | 3 |
| | Canal Revenue ... | 518 | 64 | 1 | ... | 2 | 2 | 518 | 66 | 3 |
| | Total ... | 664 | 215 | 6 | 29 | 59 | 12 | 693 | 274 | 18 |

* One out of these was transferred to the Deputy Collector, Canal Revenue Division, for disposal.

TABLE XV.—CLASSIFICATION OF COMPLAINTS.

| Class. | SUBJECT. | 1899-1900. | | | 1900-1901. | | | 1901-1902. | | |
|--------|--|------------|----------|---------|------------|----------|---------|------------|----------|---------|
| | | Granted. | Refused. | Total. | Granted. | Refused. | Total. | Granted. | Refused. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| I | Claims for remission in which liability to water-rate is denied. | No. 400 | No. 335 | No. 735 | No. 579 | No. 369 | No. 948 | No. 664 | No. 215 | No. 879 |
| II | Claims for remission in which liability to water-rate is not denied. | 5 | 2 | 7 | 8 | 15 | 23 | 3 | 18 | 21 |
| III | Complaints of damage caused by the canals. | 18 | 19 | 37 | 13 | 30 | 43 | 15 | 25 | 40 |
| IV | Complaints against individuals | 3 | 13 | 16 | 2 | 15 | 17 | 2 | 11 | 13 |
| V | Other complaints ... | 18 | 17 | 35 | 14 | 19 | 33 | 9 | 5 | 14 |
| | Total ... | 444 | 386 | 830 | 616 | 448 | 1,064 | 693 | 274 | 967 |

There were no appeals to the Collectors of the Districts against the decisions of the Canal Officers during the triennial period under review—10 cases came up before the Superintending Engineer for revision, of which decision in seven cases was upheld and three cases were revised

18.

TABLE XVI.—ESTABLISHMENT.

| Item. | HEAD OF ESTABLISHMENT. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|-------|--|-------------------------------------|-------------|----------------------|------------|-----------|--|
| | | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902 | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1 | Direction and accounts ... | 1,24,479 | 1,49,881 | 1,52,546 | 1,63,141 | 1,47,721 | 1,54,469 |
| 2 | Executive ... | | | | | | |
| 3 | REVENUE MANAGEMENT— (i) Under Deputy Collectors. | | | | | | |
| | Permanent establishment, including travelling allowance. | 43,465 | 45,785 | 45,804 | 46,717 | 45,142 | 45,888 |
| | Temporary establishment ... | 9,636 | 8,973 | 1,834 | 2,211 | 3,441 | 2,495 |
| | Contingencies ... | 3,158 | 2,833 | 2,454 | 2,222 | 2,069 | 2,248 |
| | Headmen's fees ... | 1,238 | 20 | ... | ... | 368 | 128 |
| | Fees to patwaris ... | ... | ... | ... | ... | ... | ... |
| | Fees to contractors of long-term leases. | ... | ... | ... | ... | ... | ... |
| 4 | Total establishment under Deputy Collectors. | 57,497 | 57,611 | 50,092 | 51,150 | 51,020 | 50,754 |
| | (ii) Under Engineers. | | | | | | |
| | Permanent and temporary establishments, including travelling allowance. | 8,449 | 9,181 | 9,151 | 8,991 | 8,972 | 9,038 |
| | Contingencies ... | ... | ... | ... | ... | ... | ... |
| | Headmen's fees ... | ... | ... | ... | ... | ... | ... |
| | Water-regulation establishment ... | 3,023 | 3,234 | 3,491 | 3,459 | 3,420 | 3,457 |
| 5 | Total establishment under Engineers | 11,472 | 12,415 | 12,642 | 12,450 | 12,392 | 12,495 |
| 6 | Total revenue management ... | 68,969 | 70,026 | 62,734 | 63,600 | 63,412 | 63,249 |
| 7 | Navigation establishment ... | 16,919 | 17,490 | 17,944 | 15,603 | 15,099 | 16,215 |
| 8 | Total establishment charges ... | 2,10,367 | 2,37,397 | 2,33,224 | 2,42,344 | 2,26,232 | 2,33,933 |
| 9 | Collection of water-rates and other revenue by establishment under revenue management. | 2,33,126 | 3,06,833 | 2,94,808 | 3,18,403 | 2,70,853 | 2,94,688 |
| 10 | Percentage of (6) on (9) ... | 29.58 | 22.82 | 21.28 | 19.97 | 23.41 | 21.46 |
| 11 | Rate of total establishment (8) per acre irrigated. | 1.83 | 1.24 | 1.16 | 1.19 | 1.12 | 1.15 |

The triennial average of the establishment under the Deputy Collector is less than that of the two preceding periods, but some increase took place during the year 1901-1902 in the item "temporary establishment," due to the employment of extra men for the completion of new and the renewal of old leases.

TABLE XIX.—PLANTATIONS.

| Division. | 1899-1900. | | | | 1900-1901. | | | | 1901-1902. | | | | 1899-1900. | | | | 1900-1901. | | | | 1901-1902. | | | |
|-------------------------------|---------------------|-----------------------------|-------------------------|---------|---------------------|-----------------------------|-------------------------|---------|---------------------|-----------------------------|-------------------------|---------|------------|--------------|---------|-------|------------|--------------|---------|-------|------------|--------------|---------|-------|
| | Trees over 12 feet. | Saplings from 4 to 12 feet. | Seedlings under 4 feet. | Total. | Trees over 12 feet. | Saplings from 4 to 12 feet. | Seedlings under 4 feet. | Total. | Trees over 12 feet. | Saplings from 4 to 12 feet. | Seedlings under 4 feet. | Total. | Receipts. | Expenditure. | Profit. | Loss. | Receipts. | Expenditure. | Profit. | Loss. | Receipts. | Expenditure. | Profit. | Loss. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Mahanadi Division | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| ... | 26,696 | 4,928 | 3,670 | 35,294 | 41,886 | 378 | 10,250 | 58,514 | 46,029 | 7,059 | 10,920 | 64,008 | 2,985 | 345 | 2,640 | ... | 3,052 | 285 | 2,767 | ... | 3,731 | 287 | 3,444 | ... |
| Brahmini Byturni Division | 48,204 | 11,135 | 14,237 | 73,576 | 49,466 | 10,859 | 14,124 | 74,449 | 52,210 | 10,569 | 14,057 | 76,836 | 763 | 148 | 615 | ... | 808 | 111 | 697 | ... | 1,269 | 156 | 1,113 | ... |
| Akhoyapada-Jajpur Division... | 23,697 | 9,401 | 5,591 | 38,689 | 28,035 | 13,703 | 11,584 | 53,322 | 29,073 | 14,330 | 12,724 | 56,127 | 457 | 306 | 151 | ... | 313 | 355 | ... | 42 | 339 | 429 | ... | 90 |
| Total | 98,597 | 25,464 | 23,498 | 147,559 | 119,387 | 30,940 | 35,958 | 186,285 | 127,312 | 31,958 | 37,701 | 198,971 | 4,205 | 799 | 3,406 | ... | 4,173 | 751 | 3,464 | 42 | 5,339 | 872 | 4,557 | 90 |
| | | | | | | | | | | | | | | | | | | | | 3,422 | | | | |

There was an increase during the year 1901-02, both in the number of trees and receipts compared with the previous two years.

TABLE XX.—MAXIMUM FLOODS OF THE YEAR.

| NAMES OF RIVER. | Locality. | 1899-1900. | | 1900-1901. | | 1901-1902. | | Highest recorded flood. | |
|-----------------|---|-----------------------|--------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|--------------------|
| | | Date. | Reading. | Date. | Reading. | Date. | Reading. | Date. | Reading. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Mahanadi | { Naraja Do. } ... { Above weir ... { Below " | ... | { 82.10 82.00 } | { 21-9-1900 } | { 88.75 88.75 } | { 6-9-1901 6-9-1901 } | { 87.30 87.20 } | { 29-7-1855 26-7-1892 } | { 93.11 92.10 } |
| Katjuri | { Jobra Do. } ... { Above " ... { Below " | 31-8-1899 | { 68.45 66.30 } | | { 73.45 72.50 } | { 6-9-1901 6-9-1901 } | { 71.20 70.00 } | { 25-7-1892 23-7-1896 } | { 75.95 74.65 } |
| Berupa | Bellevue ... | | 73.00 | | 80.27 | 6-9-1901 | 77.50 | 25-7-1892 | 83.30 |
| Brahmini | { Jagatpore Do. } ... { Above " ... { Below " | 23-7-1899 1-9-1899 | { 67.80 62.70 } | { 22-9-1900 22-9-1900 } | { 69.60 69.00 } | { 6-9-1901 6-9-1901 } | { 67.35 65.30 } | { 25-7-1896 25-7-1896 } | { 72.00 71.60 } |
| Patia | { Jenapore Do. } ... { Above " ... { Below " | | { 63.10 62.80 } | { 21-8-1900 21-8-1900 } | { 66.20 65.75 } | { 27-8-1901 27-8-1901 } | { 67.20 66.80 } | | { 69.60 68.60 } |
| Byturni | { Jokodia Do. } ... { Above " ... { Below " | | { 61.80 61.50 } | { 24-9-1900 24-9-1900 } | { 64.80 64.00 } | { 27-8-1901 27-8-1901 } | { 66.50 66.40 } | { 26-7-1894 } | { 69.10 68.70 } |
| Burah | { Akhrapada Do. } ... { Above " ... { Below " | 15-7-1899 | { 59.20 51.00 } | | { 66.00 61.40 } | { 26-8-1901 26-8-1901 } | { 61.50 55.20 } | | { 66.60 63.79 } |
| Salindi | { Do. Do. } ... { Above " ... { Below " | | { 59.00 56.00 } | { 25-9-1900 } | { 66.20 61.30 } | { 26-8-1901 26-8-1901 } | { 61.10 57.80 } | { 17-7-1881 } | { 67.10 63.70 } |
| | Randia ... | 15-10-1899 | 52.40 | | 58.40 | 25-8-1901 | 54.20 | 12-9-1887 | 59.78 |

The floods in the rivers during the triennial period under review were moderate to low, except in 1900, when the Byturni river rose to within 0.60 of the recorded flood. In 1901 the Brahmini rose to 2.40 ft. below the highest recorded flood. Very little damage was done to Government works by the floods of the last three years.

23.

TABLE XXI.—MAINTENANCE AND REPAIRS.

| HEADS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period, ending March 1902. |
|---------------------------------|-------------------------------------|-------------|----------------------|------------|------------|---|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Extensions and improvements ... | 13,434 | 11,743 | 20,596 | 14,896 | 12,057 | 15,850 |
| REPAIRS. | | | | | | |
| Head works ... | 54,987 | 54,257 | 42,988 | 28,442 | 27,471 | 32,968 |
| Main and Branch Canals .. | 1,09,936 | 97,140 | 71,379 | 79,740 | 75,725 | 75,615 |
| Distributaries ... | 29,969 | 29,826 | 32,537 | 24,975 | 29,103 | 28,871 |
| Drainage and Protective Works | 7,904 | 14,466 | 6,229 | 10,727 | 8,509 | 8,488 |
| Transport Service ... | 13,884 | 9,363 | 10,030 | 175 | ... | 3,402 |
| Total ... | 2,30,114 | 2,16,795 | 1,83,759 | 1,58,955 | 1,52,868 | 1,65,194 |

There has been diminished expenditure under all heads, except "Extensions and Improvements," under which several minor distributaries, some permanent outlets, several quarters and office buildings for the revenue subordinates were constructed.

The decrease under the heads "Head Works and Main Canal" is due to less damage done by floods. The expenditure under "Distributaries" practically remained the same as in the two preceding periods, while under "Drainage and Protective Works" there was less expenditure than that incurred during the preceding triennial period. The transport service was abolished during 1900-1901, which accounts for the diminished expenditure under that head.

TABLE XXII.—MAINTENANCE AND REPAIRS—CANALS AND DISTRIBUTARIES.

| CANALS, BRANCH CANALS, AND DISTRIBUTARIES. | EXPENDITURE. | | | | | | COST PER MILE. | | | | |
|---|---|----------------------|------------|------------|---|---|----------------------|------------|------------|---|--|
| | Average of triennial period ending March 1899. | Period under review. | | | Average of triennial period ending March 1902. | Average of triennial period ending March 1899. | Period under review. | | | Average of triennial period ending March 1902. | |
| | | 1899-1900. | 1900-1901. | 1901-1902. | | | 1899-1900. | 1900-1901. | 1901-1902. | | |
| | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| Taldanda Canal | Rs. 16,082 | Rs. 17,879 | Rs. 16,610 | Rs. 27,998 | Rs. 20,829 | Rs. 310 | Rs. 345 | Rs. 319 | Rs. 538 | Rs. 401 | |
| Kendrapara do. | 26,882 | 16,776 | 28,713 | 16,238 | 20,576 | 685 | 430 | 736 | 416 | 527 | |
| Do. Extension do. | 9,950 | (—) 26 | 2,658 | 4,132 | 2,255 | 663 | (—) 2 | 177 | 275 | 150 | |
| Gobri do. | 7,469 | 5,260 | 5,452 | 3,795 | 4,836 | 498 | 351 | 362 | 253 | 322 | |
| Gobri Extension do. | 2,836 | 2,377 | 4,699 | 2,140 | 3,072 | 315 | 264 | 522 | 238 | 341 | |
| High Level do. | 11,515 | 11,406 | 6,145 | 6,316 | 7,956 | 349 | 346 | 186 | 191 | 241 | |
| Do. Range I do. | 1,994 | 1,395 | 1,778 | 1,562 | 1,578 | 159 | 112 | 142 | 125 | 126 | |
| Do. Range II do. | 3,972 | 4,061 | 3,202 | 3,843 | 3,702 | 209 | 214 | 166 | 202 | 194 | |
| Do. Range III do. | 1,612 | 1,348 | 1,118 | 1,672 | 1,379 | 255 | 208 | 172 | 257 | 212 | |
| Jajpur do. | 8,293 | 5,592 | 4,903 | 4,436 | 4,979 | 259 | 175 | 152 | 139 | 155 | |
| Maehgong Branch Canal | 6,535 | 5,311 | 4,462 | 3,593 | 4,455 | 188 | 113 | 95 | 76 | 95 | |
| Pattamoondi do. | 2,505 | 2,654 | 2,732 | 2,897 | 2,761 | 25 | 26 | 26 | 27 | 26 | |
| Taldanda Canal Distributaries | 6,581 | 8,673 | 7,953 | 3,796 | 6,807 | 31 | 41 | 37 | 17 | 32 | |
| Maehgong do. | 10,024 | 8,427 | 5,680 | 8,455 | 7,521 | 27 | 21 | 15 | 23 | 20 | |
| Kendrapara Canal do. | 576 | 792 | 639 | 999 | 810 | 28 | 33 | 26 | 41 | 33 | |
| Gobri Canal do. | 395 | 659 | 612 | 690 | 654 | 23 | 39 | 37 | 41 | 39 | |
| Gobri Extension do. | 3,111 | 3,154 | 2,558 | 3,119 | 2,944 | 29 | 29 | 23 | 28 | 27 | |
| Pattamoondi Canal do. | 3,224 | 3,964 | 2,445 | 2,956 | 3,121 | 24 | 30 | 19 | 23 | 24 | |
| H. L. Canal, Range I Distributaries | 1,748 | 1,380 | 958 | 3,483 | 1,940 | 35 | 28 | 19 | 70 | 39 | |
| Do. Range III do. | 1,601 | 2,834 | 1,598 | 2,708 | 2,813 | 30 | 32 | 18 | 34 | 28 | |
| Jajpur Canal Distributaries | | | | | | | | | | | |

The first reach of the Taldanda Canal was heavily silted up, specially in the first three miles. Forty-six and-a-quarter lakhs of cubic feet of silt were removed, which accounts for the excess expenditure of the year.

The general average cost of maintenance was considerably less than in the preceding triennial period, a result which is due to the absence of any extraordinary floods in the rivers.

TABLE XXIII.—SILT-CLEARANCE AND DREDGING.

| LOCALITY. | SILT-CLEARANCE BY HAND. | | | | | | | | | | |
|-------------------------------|--|-----------|------------------|----------------------|------------|------------|------------------|------------|------------------|--|-------|
| | AVERAGE OF TRIENNIAL PERIOD ENDING MARCH 1899. | | | PERIOD UNDER REVIEW. | | | | | | AVERAGE OF TRIENNIAL PERIOD ENDING MARCH 1902. | |
| | | | | 1899-1900. | | 1900-1901. | | 1901-1902. | | | |
| | Quantity. | Cost. | | Quantity. | Cost. | Quantity. | Cost. | Quantity. | Cost. | Quantity. | Cost. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| Taldanda Canal | C. ft. 630,306 | Rs. 2,034 | C. ft. 2,228,416 | Rs. 6,693 | C. ft. ... | Rs. 2 | C. ft. 4,627,034 | Rs. 13,825 | C. ft. 2,285,159 | Rs. 6,840 | |
| Machgong " | 14,678 | 46 | 167,230 | 506 | ... | ... | 80,197 | 410 | 82,476 | 305 | |
| Kendrapara " | 2,402,026 | 5,929 | 279,043 | 716 | 4,135,664 | 15,344 | 43,280 | 152 | 1,485,996 | 5,404 | |
| Do. Extension " | 77,140 | 160 | ... | ... | ... | ... | ... | ... | ... | ... | |
| Gobri " | 325,587 | 780 | 202,801 | 454 | 9,571 | 24 | ... | ... | 70,791 | 159 | |
| Do. Extension " | 56,905 | 159 | 83,172 | 219 | ... | ... | ... | ... | 27,724 | 73 | |
| Pattamondi " | 3,683 | 10 | ... | ... | 64,639 | 162 | ... | ... | 21,546 | 54 | |
| High Level, Canal Range I | 132,756 | 577 | 480,774 | 1,477 | 85,759 | 329 | 388,002 | 1,068 | 318,178 | 958 | |
| Do. Range II | 75,509 | 362 | 55,357 | 217 | 34,353 | 84 | 26,816 | 125 | 38,842 | 142 | |
| Do. Range III | 973 | 2 | 36,479 | 99 | 6,377 | 16 | 37,108 | 97 | 26,605 | 71 | |
| Jajpur Canal | 4 255 | 10 | 24,361 | 80 | 9,945 | 44 | 25,524 | 70 | 19,943 | 65 | |
| Total | 3,723,818 | 10,069 | 3,557,633 | 10,461 | 4 346,308 | 16 005 | 5,227,961 | 15,747 | 4,377,301 | 14,071 | |
| DREDGING. | | | | | | | | | | | |
| Taldanda Canal | 344,001 | 2,736 | 112,494 | 712 | 392,025 | 4,150 | 479,575 | 3,592 | 328,031 | 2,818 | |
| Machgong " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| Kendrapara " | 309,070 | 1,883 | 166,820 | 710 | 49,504 | 274 | 90,645 | 337 | 102,323 | 440 | |
| Do. Extension " | 25,429 | 138 | 39,296 | 170 | ... | ... | ... | ... | 13,099 | 57 | |
| Gobri " | 24,961 | 159 | ... | ... | ... | ... | ... | ... | ... | ... | |
| Do. Extension " | 11,012 | 97 | ... | ... | ... | ... | ... | ... | ... | ... | |
| Pattamondi " | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| High Level Canal, Range I | 87,175 | 407 | 11,360 | 45 | 111,413 | 377 | 13,425 | 47 | 45,399 | 156 | |
| Do. Range II | 5,584 | 27 | ... | ... | ... | ... | ... | ... | ... | ... | |
| Do. Range III | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| Jajpur Canal | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| Repairs to dredging plant ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | |
| Total | 8,07,232 | 5,447 | 329,970 | 1,637 | 552,942 | 4,801 | 583,645 | 3,976 | 488,852 | 3,471 | |

Mr. Barlow reports as follows on flushing and scouring Lock entrances of the Kendrapara Canal, &c., during the years 1899-1900, 1900-1901 and 1901-1902 :—

"The lock entrances at Jumbu and Alba silt up yearly towards the end of the rains, and except at high tide there is not enough water to pass steamers and boats. The silt deposited is cleared partly by hand at low tides and partly by tying up a deeply laden iron boat across the Channels and scouring under it by opening the lock valves, &c. This can only be done when there is a good head, viz., when the water in the river is low.

"To avoid silting in the first reach as far as practicable full supply is run down continuously during the rains, and any excess water not required for irrigation purposes, is run off through the escapes. This has been found to be most successful since the channel has been remodelled and only excavated to the minimum section required. After the floods are over and even after the irrigation is over, full supply is kept running whenever a bar of silt deposits near the head, and it has been found that this deposit is always moved down and generally more or less dispersed.

"As regards Alba—In 1899 scouring was done by boat—

| | | | |
|----------------|-----|-----|---------|
| During October | ... | ... | 7 days. |
| " November | ... | ... | 7 " |
| " December | ... | ... | 4 " |

"In 1900 scouring was done by boat—

| | | | | |
|----------------|-----|-----|---------|--|
| During October | ... | ... | 9 days. | |
| " November | ... | ... | 10 " | |
| " December | ... | ... | 3 " | |
| " January | ... | ... | 10 " | This was necessitated owing to slight flood and fresh silt deposit. |
| " February | ... | ... | 12 " | |

"In 1901 scouring was done by boat—

| | | | |
|----------------|-----|-----|---------|
| During October | ... | ... | 4 days. |
| " November | ... | ... | 6 " |
| " December | ... | ... | 9 " |
| " January | ... | ... | 2 " |

"The result was slow but fairly sure, and each period of working improved the channel though sometimes silt would again deposit. As regards the Pattamoondi Canal, scouring is not required at present as the channel is still in excess of requirements."

For the High Level Canal the first portion of the channel has been contracted in width by throwing excavated silt on the sides of the channel and turfing the same. The Executive Engineer remarks: "The contraction of the channel has been effective in reducing the sand deposit in the entrance channel, but at the same time it has been the cause of heading up the water so much so that hardly 4 inches of head could be obtained in this irrigation season. Hence supply of more than 500c. ft., which is the requirement for irrigation, can hardly be got into the Canal for the purpose of escape in scouring the silt. The contracted state of the channel at the entrance has reduced silt deposit and will further reduce. Any silt brought in will be taken down the Cannal where the section is wide enough."

The following extracts are from a note by Mr. Arnott, Executive Engineer, on the Taldanda Canal. "In the irrigation season of 1900 there was great difficulty in getting sufficient water down the first reach of the canal owing to the silted up state of the first three miles. It was settled to lower the bed of the canal by 3 inches from Jobra to Biribati, and to reduce the width of the channel below the head sluice by depositing the excavated sand from the bed on to the sides until it was above full supply line. The canal was kept running full for the whole season and whether owing to the low state of the river or to the flush which a full supply gives, tending to send the silt down to the lower reaches, the first 3 miles of the Taldanda canal after the irrigation season of 1901 were remarkably free from silt. Mr. Arnott is of opinion that this was due to the flushing maintained during the season, and he considers that if his suggestions to cut down the weirs were adopted, a still further 'draw' to the water would be given."

The average expenditure incurred during the triennial period under review in clearing silt from the Taldanda Canal is more than three times as large as in the preceding period, the reasons for which are explained above.

During 1900-1901, 41½ lakhs of silt were removed from the 1st reach of the Kendrapara Canal, which was choked with it. The sill of the first weir was lowered, so that full discharge can be passed through the reach with less than full depth of water in the canal.

Very little silt is cleared from the other canals, and no special remarks are called for in respect to them. The general average expenditure for the period under review was Rs. 4,000 in excess of the previous one.

Under the head 'dredging' the expenditure on the Taldanda Canal was practically the same as in the previous three years, while there was a satisfactory decrease under all other canals.

MIDNAPORE CANAL.

25.

TABLE I—CAPITAL ACCOUNT.

| HEAD OF ACCOUNT. | Outlay to end of March 1899. | OUTLAY DURING— | | | Outlay to end of March 1902. |
|--|------------------------------------|----------------|--------------|--------------|------------------------------------|
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| DIRECT CHARGES. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Works | 58,69,721 | 8,000 | ..... | 1,223 | 53,78,944 |
| Establishment | 19,28,956 | ..... | ..... | 280 | 19,29,236 |
| Tools and plant | 9,18,847 | ..... | ..... | 19 | 9,18,866 |
| Suspense ... .. | ..... | ..... | ..... | ..... | ..... |
| Loss by exchange | 94,800 | ..... | ..... | ..... | 94,800 |
| Total | 83,12,324 | 8,000 | ..... | 1,522 | 83,21,846 |
| Less—Receipts on capital account... | 31,558 | ..... | ..... | ..... | 31,558 |
| Total direct charges | 82,80,766 | 8,000 | ..... | 1,522 | 82,90,288 |
| Indirect charges | 1,84,661 | ..... | ..... | 39 | 1,84,700 |
| Total outlay, direct and indirect ... | 84,65,427 | 8,000 | ..... | 1,561 | 84,74,988 |

The construction estimate of this canal was closed on 31st March 1899. The sum of Rs. 8,000 spent in 1899-1900 represents half cost of the purchase of the Executive Engineer's office and residence at Midnapore. The expenditure incurred during the year 1901-1902 was on account of constructing permanent outlets to improve the water distribution.

26.

TABLE II—LENGTHS OF CHANNELS.

| DESCRIPTION OF CHANNEL. | LENGTH OF CHANNEL IN MILES. | | | | At end of March 1902. |
|---|-----------------------------|------------------------------|------------|------------|--------------------------|
| | At end of March 1899. | Increase or decrease during— | | | |
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Navigable canals (both for irrigation and navigation) ... Miles | 72 | ..... | ..... | ..... | 72 |
| Branch canals (for irrigation only) .. | ..... | ..... | ..... | ..... | ..... |
| Distributaries | 283.97 | ..... | ..... | ..... | 283.97 |
| Village channels | 29.58 | ..... | ..... | 0.37 | 29.95 |
| Permanent outlets ... No. | 43 | 7 | 3 | 24 | 77 |
| Temporary | 942 | 61 | 51 | 68 | 1,122 |
| Drainage channels ... Miles | 54.42 | ..... | ..... | ..... | 54.42 |
| Area protected from flood ... Acres | 437,120 | ..... | ..... | ..... | 437,120 |
| Gross area under command... .. | 180,000 | ..... | ..... | ..... | 180,000 |

There was no change in the lengths of navigable channels and distributaries during the triennial period. There was an increase of 0.37 miles in the length of village channels owing to the construction of Madhpur village channel. The number of permanent, as compared with the number of temporary outlets, is still very small, but it has not been considered desirable or necessary to incur the great expense of making all the outlets permanent, and it was decided to take in hand only the more important ones at the heads of distributaries. The construction of 48 of these outlets at an estimated cost of Rs. 5,682 was begun in 1901-1902, and the work is still in progress. On the whole, the canal may be considered to be fairly well equipped for the distribution of water.

27.

TABLE III.—FINANCIAL RESULTS.

| Item. | PARTICULARS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|-------|--|-------------------------------------|-------------|----------------------|------------|------------|--|
| | | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | RECEIPTS. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1 | Water-rates ... | 1,33,524 | 1,09,360 | 1,27,730 | 1,18,920 | 1,24,786 | 1,23,812 |
| 2 | Navigation ... | 1,31,468 | 1,30,044 | 89,789 | 97,730 | 89,835 | 92,451 |
| 3 | Miscellaneous ... | 22,881 | 23,651 | 21,133 | 17,563 | 26,371 | 21,689 |
| | Total ... | 2,87,873 | 2,63,055 | 2,38,652 | 2,34,213 | 2,40,992 | 2,37,952 |
| | Less—Refunds of revenue ... | 265 | 2,577 | 812 | 840 | 386 | 679 |
| 4 | Total Receipts ... | 2,87,608 | 2,60,478 | 2,37,840 | 2,33,373 | 2,40,606 | 2,37,273 |
| | WORKING EXPENSES. | | | | | | |
| | DIRECT CHARGES. | | | | | | |
| | <i>I.—Works.</i> | | | | | | |
| 5 | Extensions and improvements ... | 8,339 | 8,896 | 9,316 | 11,156 | 2,490 | 7,654 |
| 6 | Maintenance and repairs ... | 1,14,242 | 1,26,853 | 1,47,076 | 69,622 | 61,293 | 92,664 |
| 7 | Establishment (Direction and Accounts and Executive). ... | 32,586 | 40,297 | 45,256 | 37,435 | 40,831 | 41,174 |
| 8 | Tools and plant ... | 43,250 | 29,452 | 35,575 | 10,131 | 24,250 | 23,319 |
| | Total ... | 1,98,417 | 2,05,498 | 2,37,223 | 1,28,344 | 1,28,864 | 1,64,811 |
| | <i>II.—Revenue management.</i> | | | | | | |
| 9 | Irrigation establishment ... | 21,203 | 24,939 | 25,409 | 26,260 | 23,594 | 25,754 |
| 10 | Navigation ditto ... | 8,016 | 8,423 | 7,934 | 7,790 | 6,824 | 7,516 |
| | Total ... | 29,219 | 33,362 | 33,343 | 34,050 | 32,418 | 33,270 |
| 11 | Total Direct Charges ... | 2,27,636 | 2,38,861 | 2,70,566 | 1,62,394 | 1,61,282 | 198,081 |
| | INDIRECT CHARGES. | | | | | | |
| 12 | Capitalised abatement of land revenue ... | ..... | ..... | ..... | ..... | ..... | ..... |
| 13 | Leave and pension allowances ... | 8,653 | 10,312 | 11,004 | 10,008 | 10,255 | 10,422 |
| | Total ... | 8,653 | 10,312 | 11,004 | 10,008 | 10,255 | 10,422 |
| 14 | Total working expenses (direct and indirect). ... | 2,36,289 | 2,49,173 | 2,81,570 | 1,72,402 | 1,71,537 | 2,08,503 |
| 15 | Net revenue ... | 51,319 | 11,305 | (—) 43,730 | 60,971 | 69,069 | 28,770 |
| 16 | Capital outlay (direct and indirect) ... | 84,48,324 | 84,63,702 | 84,73,427 | 84,73,427 | 84,74,988 | 84,73,947 |
| 17 | Percentage of net revenue on capital outlay. ... | 0.61 | 0.13 | (—) 0.52 | 0.72 | 0.81 | 0.34 |
| 18 | Area irrigated Acres ... | 73,710 | 71,322 | 72,105 | 80,330 | 82,134 | 78,190 |
| 19 | Average water-rate (item 1) per acre irrigated. ... | 1.81 | 1.53 | 1.77 | 1.48 | 1.52 | 1.59 |
| 20 | Total irrigation establishment charges (items 7 + 9) per acre irrigated. ... | 0.73 | 0.91 | 0.98 | 0.79 | 0.81 | 0.86 |
| 21 | Working expenses (direct and indirect) per acre irrigated. ... | 3.20 | 3.49 | 3.90 | 2.15 | 2.09 | 2.66 |

The reduction in the average receipts for the triennial period under review compared with those for the two previous periods is mainly due to the opening of the Bengal-Nagpur Railway which has tapped the canal traffic and caused the withdrawal of the Steamer Service by the Calcutta Steam Navigation Company. There was however a considerable falling off in the working expenses. The reduction has been mainly effected under the head Maintenance and Repairs, as owing to the cessation of the Steamer Services no extensive silt clearance and revetting of canal banks, &c., were required. In consequence of the great reduction effected in the working expenses the net revenue increased from (—) Rs. 43,730 in 1899-1900 and Rs. 60,971 in 1900-1901 to Rs. 69,069 in 1901-1902 notwithstanding the great decrease in navigation receipts. The result is highly satisfactory.

TABLE III(a)—INTEREST.

28. The interest charges for and up to the end of the triennial period are given below :—

| 1 | To end of March 1899. | PERIOD UNDER REVIEW. | | | To end of March 1902. |
|----------------------|--------------------------|----------------------|-----------------|-----------------|--------------------------|
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 2 | 3 | 4 | 5 | 6 | |
| Interest charges ... | Rs. 87,24,289 | Rs. 3,31,390 | Rs. 3,31,551 | Rs. 3,31,580 | Rs. 97,18,510 |

29.

TABLE IV.—RAINFALL.

| 1 | | AVERAGES OF 4 STATIONS. | | | |
|---------------|----------------|---|---------------------|------------|------------|
| | | Average of fourteen years ending March 1899. | Period under review | | |
| | | | 1899-1900. | 1900-1901. | 1901-1902. |
| 2 | 3 | 4 | 5 | 6 | |
| | | Inches. | Inches. | Inches. | Inches. |
| Kharif season | July ... | 11.11 | 20.39 | 8.87 | 8.99 |
| | August ... | 12.22 | 9.01 | 14.75 | 13.38 |
| | September ... | 8.25 | 9.55 | 20.95 | 11.18 |
| | October ... | 3.27 | 3.33 | 1.35 | 1.29 |
| | Total .. | 34.85 | 42.28 | 45.92 | 34.84 |
| Rabi season | November ... | 0.59 | 0.00 | 0.00 | 4.09 |
| | December ... | 0.07 | 0.00 | 0.90 | 0.00 |
| | January ... | 0.37 | 0.02 | 2.93 | 0.00 |
| | February ... | 0.95 | 0.43 | 3.14 | 0.00 |
| | Total ... | 1.98 | 0.45 | 6.97 | 4.09 |
| | Whole year ... | 54.29 | 60.98 | 65.85 | 54.49 |

During each of the past three years the rainfall in the *Kharif* season was well up to or above the normal. In October 1900-1901 and 1901-1902 there was a marked deficiency which created a strong demand for Canal water.

30.

TABLE V.—AREAS IRRIGATED.

| YEAR. | Kharif. | Rabi. | Perennial. | Total. | RAINFALL. | | |
|-----------------------|---------|--------|------------|--------|-------------------|--------------|---------|
| | | | | | Kharif season. | Rabi season. | Year. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Acres. | Acres. | Acres. | Acres. | Inches. | Inches. | Inches. |
| 1898-94 ... | 79,550 | 6,213 | ... | 85,763 | 37.09 | 0.31 | 70.63 |
| 1894-95 ... | 69,941 | 175 | ... | 70,116 | 36.27 | 2.74 | 55.89 |
| 1895-96 ... | 65,251 | ... | ... | 65,251 | 24.48 | 0.03 | 36.66 |
| Triennial average ... | 71,581 | 2,129 | ... | 73,710 | 32.61 | 1.03 | 54.39 |
| 1896-97 ... | 65,183 | ... | ... | 65,183 | 30.33 | 0.90 | 55.08 |
| 1897-98 ... | 72,206 | ... | ... | 72,206 | 29.09 | 0.34 | 48.52 |
| 1898-99 ... | 70,741 | 5,837 | ... | 76,578 | 34.85 | 0.20 | 51.48 |
| Triennial average ... | 69,377 | 1,945 | ... | 71,322 | 31.42 | 0.48 | 51.69 |
| 1899-1900 ... | 71,398 | 707 | ... | 72,105 | 42.28 | 0.45 | 69.98 |
| 1900-1901 ... | 79,429 | 901 | ... | 80,330 | 45.92 | 6.97 | 65.85 |
| 1901-1902 ... | 81,868 | 266 | ... | 82,134 | 34.84 | 4.09 | 54.49 |
| Triennial average ... | 77,565 | 625 | ... | 78,190 | 41.01 | 3.83 | 63.44 |

The increase in the area irrigated during the *Kharif* season of 1901-02 was due to the excessive demand for canal water caused by the scanty rainfall in October.

40.

TABLE VI.—AREAS IRRIGATED BY LEASES.

| CROP. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|----------------------------------|-------------------------------------|-------------|----------------------|------------|------------|--|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| Kharif... { Long-term leases ... | 71,354 | 68,965 | 71,398 | 78,809 | 81,784 | 77,330 |
| Season leases ... | 214 | 11 | ..... | 620 | ..... | 207 |
| Sale by volume ... | ..... | ..... | ..... | ..... | ..... | ..... |
| Unauthorized irrigation | 13 | 401 | ..... | ..... | 84 | 28 |
| Total ... | 71,581 | 69,377 | 71,398 | 79,429 | 81,868 | 77,565 |
| Rabi ... { Long-term leases ... | ..... | ..... | ..... | ..... | ..... | ..... |
| Season leases ... | 2,129 | 1,945 | 707 | 901 | 266 | 625 |
| Unauthorized irrigation | ..... | ..... | ..... | ..... | ..... | ..... |
| Total ... | 2,129 | 1,945 | 707 | 901 | 266 | 625 |
| Hot weather { Season leases ... | ..... | ..... | ..... | ..... | ..... | ..... |
| Unauthorized irrigation | ..... | ..... | ..... | ..... | ..... | ..... |
| Total ... { Long-term leases ... | 71,354 | 68,965 | 71,398 | 78,809 | 81,784 | 77,330 |
| Season leases ... | 2,343 | 1,956 | 707 | 1,521 | 266 | 832 |
| Others ... | 13 | 401 | ..... | ..... | 84 | 28 |
| GRAND TOTAL ... | 73,710 | 71,322 | 72,105 | 80,330 | 82,134 | 78,190 |

Nearly the whole of the irrigation during the year 1901-02 was carried out under the system of long-term leases. The area irrigated exceeded the limit which was formerly laid down as the maximum for which long leases should be granted. The area under season leases was very small.

TABLE VIII.—LONG-TERM LEASES.

| DIVISION. | Leases lapsed on 31st March 1899. | 1899-1900. | | Leases lapsed on 31st March 1900. | 1900-1901. | | Leases lapsed on 31st March 1901. | 1901-1902. | |
|----------------|-----------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|--------------------------------------|-------------------------------------|
| | | Leases entered into during the year. | Total area under lease in the year. | | Leases entered into during the year. | Total area under lease in the year. | | Leases entered into during the year. | Total area under lease in the year. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| Cossye Dn. ... | 3,121 | 2,570 | 71,856 | 14,040 | 22,653 | 80,469 | 22,169 | 23,605 | 81,905 |
| Total | 3,121 | 2,570 | 71,856 | 14,040 | 22,653 | 80,469 | 22,169 | 23,605 | 81,905 |

The areas of new leases entered into during the year 1900-1901 and 1901-1902 exceeded those of the lapsed leases, and this circumstance may be accepted as evidence of the popularity of canal water.

TABLE IX.—DUTY OF WATER.

31.

| YEAR AND CROP. | CANAL SYSTEM UNDER MIDNAPORE WEIR. | | | | | | | CANAL SYSTEM UNDER PANCHKURA WEIR. | | | | | | | CANAL SYSTEM UNDER TIDAL REACHES, RANGES I & II. | | | | | | |
|---|------------------------------------|-------------------|---------------------------------|---------------------------------|-------------------------|------------------------------------|--------------------------|------------------------------------|----------------------------------|----------------------------------|---------------------------|----------------------------|------------------------------------|-------------------|--|------------------------------|----------------------|----------------------|--------|----------|-----------|
| | AVERAGE SUPPLY. | | | DUTY. | | Number of days the canal was open. | Area irrigated. | AVERAGE SUPPLY. | | | DUTY. | | Number of days the canal was open. | Area irrigated. | AVERAGE SUPPLY. | | | DUTY. | | | |
| | At head. | Utilised. | No. | C. ft. p. sec. | Acres. | | | At head. | Utilised. | No. | C. ft. p. sec. | Acres. | | | At head. | Utilised. | No. | C. ft. p. sec. | Acres. | At head. | Utilised. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | | | |
| 1899-1900 | Acres. 63,117 ... | No. 123 ... | C. ft. p. sec. 247-49 ... | C. ft. p. sec. 238-57 ... | Acres. 255-03 ... | Acres. 264-56 ... | Acres. 6,484 707 | No. 123 120 | C. ft. p. sec. 12-30 10-05 | C. ft. p. sec. 11-81 6-43 | Acres. 527-15 70-34 | Acres. 549-02 109-95 | Acres. 1,797 ... | No. 123 ... | C. ft. p. sec. | C. ft. p. sec. | Acres. | Acres. | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| 1900-1901 | Acres. 70,430 ... | No. 123 ... | C. ft. p. sec. 384-71 ... | C. ft. p. sec. 351-03 ... | Acres. 183-06 ... | Acres. 240-63 ... | Acres. 7,921 901 | No. 123 ... | C. ft. p. sec. 61-62 28-78 | C. ft. p. sec. 47-53 13-84 | Acres. 128-54 31-30 | Acres. 166-65 65-10 | Acres. 1,078 ... | No. 123 ... | C. ft. p. sec. | C. ft. p. sec. | Acres. | Acres. | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| 1901-1902 | Acres. 71,699 ... | No. 123 ... | C. ft. p. sec. 375-24 ... | C. ft. p. sec. 303-98 ... | Acres. 191-11 ... | Acres. 235-86 ... | Acres. 8,732 266 | No. 123 ... | C. ft. p. sec. 53-25 5-01 | C. ft. p. sec. 37-72 2-66 | Acres. 163-98 53-09 | Acres. 231-49 100-00 | Acres. 1,437 ... | No. 123 ... | C. ft. p. sec. | C. ft. p. sec. | Acres. | Acres. | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Triennial average for the period ending 1901-02 | Acres. 68,416 .. | No. | C. ft. p. sec. 335-81 ... | C. ft. p. sec. 297-86 ... | Acres. 209-73 ... | Acres. 233-68 ... | Acres. 7,712 625 | No. | C. ft. p. sec. 42-39 14-61 | C. ft. p. sec. 32-35 7-64 | Acres. 273-22 51-58 | Acres. 315-72 91-68 | Acres. 1,437 ... | No. | C. ft. p. sec. | C. ft. p. sec. | Acres. | Acres. | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Triennial average for the period ending 1898-99 | Acres. 61,095 ... | No. | C. ft. p. sec. 252-04 ... | C. ft. p. sec. 199-04 ... | Acres. 280-07 ... | Acres. 349-38 ... | Acres. 7,210 1,945 | No. | C. ft. p. sec. 36-15 ... | C. ft. p. sec. 33-64 ... | Acres. 216-10 31-46 | Acres. 252-28 63-65 | Acres. 1,072 ... | No. | C. ft. p. sec. | C. ft. p. sec. | Acres. | Acres. | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Triennial average for the period ending 1895-96 | Acres. 64,450 ... | No. | C. ft. p. sec. 432-58 ... | C. ft. p. sec. 321-66 ... | Acres. 128-54 ... | Acres. 183-73 ... | Acres. 6,219 2,129 | No. | C. ft. p. sec. 59-25 34-58 | C. ft. p. sec. 39-33 6-42 | Acres. 108-82 27-71 | Acres. 221-68 148-00 | Acres. 912 ... | No. | C. ft. p. sec. | C. ft. p. sec. | Acres. | Acres. | | | |
| | | | | | | | | | | | | | | | | | | | | | |

The Superintending Engineer writes: "The duty of water on a canal which for the most part merely supplements the rainfall cannot be very accurately gauged, and the figures given have not much value. Mr. White, in replying to questions put by the Irrigation Commission, gives some interesting information regarding the duty during months of greatest pressure. The instances which he records give duties varying from 120 to 220 acres, and he considers that a duty of 160 acres represents the average during times of pressure."

32.

TABLE X.—CROP EXPERIMENTS—RICE.

Conducted by the Executive Engineer and his subordinates.

RESULT OF EXPERIMENTS ON "GOOD" RICE CROPS, IRRIGATED WITH CANAL-WATER.

| DIVISION. | 1899-1900. | | | 1900-1901. | | | 1901-1902. | | |
|---------------------|------------------------|--------------------------------------|--------|------------------------|--------------------------------------|--------|------------------------|--------------------------------------|--------|
| | Number of experiments. | AVERAGE YIELD PER ACRE, WEIGHED DRY. | | Number of experiments. | AVERAGE YIELD PER ACRE, WEIGHED DRY. | | Number of experiments. | AVERAGE YIELD PER ACRE, WEIGHED DRY. | |
| | | Unhusked grain. | Straw. | | Unhusked grain. | Straw. | | Unhusked grain. | Straw. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. |
| Cossye Division ... | 4 | 27 29½ | 52 | 18 | 23 26 | 38 | 6 | 24 39½ | 40½ |

RESULT OF EXPERIMENTS ON "AVERAGE" RICE CROPS IRRIGATED WITH CANAL WATER.

| | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. |
|---------------------|-----|-----------|------|-----|-----------|------|-----|-----------|------|
| Cossye Division ... | 22 | 19 2 | 38 | 21 | 21 5 | 38 | 34 | 22 31 | 41 |

RESULT OF EXPERIMENTS ON "GOOD" RICE CROPS IRRIGATED WITHOUT CANAL-WATER.

| | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. |
|---------------------|-----|-----------|------|-----|-----------|------|-----|-----------|------|
| Cossye Division ... | 3 | 27 19 | 65 | 10 | 19 31 | 30 | 6 | 21 25½ | 35 |

RESULT OF EXPERIMENTS ON "AVERAGE" RICE CROPS, IRRIGATED WITHOUT CANAL WATER.

| | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. |
|---------------------|-----|-----------|------|-----|-----------|------|-----|-----------|------|
| Cossye Division ... | 9 | 17 24 | 36 | 21 | 14 14 | 28 | 24 | 17 11½ | 30½ |

Conducted by the Deputy-Collector, Canal Revenue Division and his subordinates.

RESULT OF EXPERIMENTS OF "GOOD" RICE CROPS IRRIGATED WITH CANAL WATER.

| DIVISION. | 1899-1900. | | | 1900-1901. | | | 1901-1902. | | |
|---------------------|------------------------|--------------------------------------|--------|------------------------|--------------------------------------|--------|------------------------|--------------------------------------|--------|
| | Number of experiments. | AVERAGE YIELD PER ACRE, WEIGHED DRY. | | Number of experiments. | AVERAGE YIELD PER ACRE, WEIGHED DRY. | | Number of experiments. | AVERAGE YIELD PER ACRE, WEIGHED DRY. | |
| | | Grain. | Straw. | | Grain. | Straw. | | Grain. | Straw. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. |
| Cossye Division ... | 4 | 21 15 | 36 | 1 | 25 10 | 52 | 4 | 27 20 | 47 |

RESULT OF EXPERIMENTS ON "AVERAGE" RICE CROPS IRRIGATED WITH CANAL WATER.

| | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. | No. | Mds. Srs. | Mds. |
|---------------------|-----|-----------|------|-----|-----------|------|-----|-----------|------|
| Cossye Division ... | ... | ... | ... | 11 | 21 30 | 35 | 12 | 21 32 | 38 |

A "good" crop is one decidedly above the ordinary crop in the village in which the experiment is taken.

An "average" crop, is one considered a fair average of the whole crop in the village in which the experiment is taken.

RESULT OF EXPERIMENTS ON "GOOD" RICE CROPS IRRIGATED WITHOUT CANAL WATER.

| | No. | Mds. | Srs. | Mds. | No. | Mds. | Srs. | Mds. | No. | Mds. | Srs. | Mds. |
|---------------------|-----|------|------|------|-----|------|------|------|-----|------|------|------|
| Cossye Division ... | 4 | 22 | 0 | 37 | ... | ... | ... | ... | 4 | 19 | 4 | 36 |

RESULT OF EXPERIMENTS ON "AVERAGE" RICE CROPS, IRRIGATED WITHOUT CANAL WATER.

| | No. | Mds. | Srs. | Mds. | No. | Mds. | Srs. | Mds. | No. | Mds. | Srs. | Mds. |
|---------------------|-----|------|------|------|-----|------|------|------|-----|------|------|------|
| Cossye Division ... | .. | ... | ... | ... | 12 | 13 | 8 | 18 | 12 | 15 | 39 | 29 |

TABLE XII.—RELATIVE VALUE, IRRIGATED AND UNIRRIGATED CROPS.

| DIVISION. | RICE. | | | | | |
|-------------------|--|---|--|---|--|---|
| | 1899-1900. | | 1900-1901. | | 1901-1902. | |
| | Value of out- turn to culti- vators per acre from irri- gated lands. | Value of out- turn to culti- vators per acre from lands not irrigated. | Value of out- turn to culti- vators per acre from irri- gated lands. | Value of out- turn to culti- vators per acre from lands not irrigated. | Value of out- turn to culti- vators per acre from irri- gated lands. | Value of out- turn to culti- vators per acre from lands not irrigated. |
| | Paddy—24 srs. per rupee Straw—6 mds, per rupee. | Paddy—24 srs. per rupee. Straw—6 mds. per rupee. | Paddy—21 srs. per rupee Straw—5 mds per rupee. | Paddy—21 srs. per rupee. Straw—5 mds, per rupee. | Paddy—17 srs. per rupee. Straw—4½ mds. per rupee. | Paddy—17 srs. per rupee. Straw—4½ mds. per rupee. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| COSSEY DIVISION. | Rs. As. P. | Rs. As. P. | Rs. As. P. | Rs. As. P. | Rs. As. P. | Rs. As. P. |
| MIDNAPORE CANAL— | | | | | | |
| Average Paddy ... | 31 12 0 | 29 6 0 | 38 9 0 | 26 4 0 | 51 5 0 | 40 8 0 |
| Ditto Straw ... | 6 5 0 | 6 0 0 | 7 3 0 | 5 10 0 | 9 0 0 | 6 13 0 |
| Total ... | 38 1 0 | 35 6 0 | 45 12 0 | 31 14 0 | 60 5 0 | 47 5 0 |

N.B.—¼rd deducted from the weight of paddy to arrive at the quantity of rice. The Executive Engineer, however, found ¾th husk from actual experiment in the year 1900-1901.

The average value of the outturn for the triennial period under review and the two previous triennial are :—

| | | | | Irrigated. | Unirrigated. |
|--------------------------|-----|-----|-----|------------|-----------------|
| | | | | Rs. A. | Rs. A. |
| Period ending March 1902 | ... | ... | ... | 41 2 | No observation. |
| Ditto ditto 1899 | ... | ... | ... | 42 7 | 36 4 |
| Ditto ditto 1896 | ... | ... | ... | 44 7 | 38 2 |

The high value of the outturn in 1901-1902, as compared with that in the two previous years, was due to the high price of rice in 1901-1902.

33.

TABLE XIII.—ASSESSMENTS, REMISSIONS, AND COLLECTIONS.

| Number of item. | HEADS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|-----------------|---|-------------------------------------|-------------|----------------------|------------|------------|--|
| | | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1 | Opening balance of the year .. | 20,048 | 8,360 | 5,718 | 1,128 | 163 | 2,336 |
| 2 | Assessment sent to Deputy Collector during the year ... | 1,23,079 | 1,10,360 | 1,23,598 | 1,18,891 | 1,25,108 | 1,22,532 |
| 3 | Surplus and excess recoveries ... | ..... | ..... | ... | ..... | ..... | ..... |
| | Total ... | 1,43,127 | 1,18,720 | 1,29,316 | 1,20,019 | 1,25,271 | 1,24,868 |
| 4 | Ordinary remissions ... | 2,368 | 2,349 | 258 | 436 | 180 | 291 |
| 5 | Extraordinary remissions ... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Deduction .. | 2,368 | 2,349 | 258 | 436 | 180 | 291 |
| 6 | Net demand (including arrears) .. | 1,40,759 | 1,16,372 | 1,29,058 | 1,19,582 | 1,25,091 | 1,24,577 |
| 7 | Irrecoverable ... | ..... | ..... | 200 | 500 | 64 | 255 |
| 8 | Written off under special sanction .. | 2 | 120 | ..... | ..... | ..... | ..... |
| 9 | Actually collected .. | 1,33,524 | 1,09,360 | 1,27,730 | 1,18,920 | 1,24,786 | 1,23,812 |
| 10 | Surplus and excess recoveries ... | ..... | ..... | ... .. | ..... | ..... | ..... |
| 11 | Total Collections and Adjustments | 1,33,526 | 1,09,480 | 1,27,930 | 1,19,420 | 1,24,850 | 1,24,067 |
| 12 | Outstanding balance (line 6 - line 11) | 7,233 | 6,891 | 1,128 | 163 | 241 | 510. |
| 13 | Percentage of collection (11) to net demand (6) ... | 94.9 | 94.07 | 99.1 | 99.8 | 99.8 | 99.6 |
| 14 | Number of certificates issued .. | 888 | 446 | 284 | 186 | 169 | 213 |

The Superintending Engineer writes :—

"Item 1.—The opening balance for the triennial period ending March 1902, was less than that of the first and second. This was due to the Deputy Collector being vested with the powers of Certificate Collector. The rate-payers have learnt by experience that the non-payment of their dues within the prescribed time is followed by the prompt filing of certificates against them, and the issue of processes for distraint, and that this puts them to trouble and expense.

Item 2.—The increase was due to a larger area irrigated during the triennial period ending 31st March 1902.

Item 4.—The average remission granted during the triennial period ending March 1902 was less than that of the first and second. This was due to correct assessment having been made after test and re-test of the maps of the villages under lease.

Item 14.—The investment of certificate power to the Deputy Collector in charge of the Canal Revenue Division, Midnapore, has been followed by a gradual reduction in the number of certificates.

46. The following Supplementary Table XIII (a) shows the remissions of original demand made as the result of admitted complaints.

TABLE XIII (a).

| YEAR. | Amount written off as irrecoverable. | REMISSIONS OF ORIGINAL DEMAND MADE AS THE RESULT OF ADMITTED COMPLAINTS. | | REMARKS. |
|---------------|--------------------------------------|--|--|----------|
| | | Portion remitted so as to reduce the amount due. | Refund upon such portion as has been paid. | |
| | Rs. | Rs. | Rs. | |
| 1899-1900 ... | 200 | 258 | 833 | |
| 1900-1901 ... | 500 | 436 | 830 | |
| 1901-1902 .. | 64 | 180 | 380 | |

34.

TABLE XIV.—CLAIMS AND COMPLAINTS.

| Year. | DIVISION. | I.—CLAIMS FOR ORDINARY REMISSIONS. | | | II TO V.—OTHER COMPLAINTS. | | | TOTAL OF THE YEAR. | | |
|-----------|------------------------|------------------------------------|----------|----------|----------------------------|----------|----------|--------------------|----------|----------|
| | | Allowed. | Refused. | Pending. | Admitted. | Refused. | Pending. | Admitted. | Refused. | Pending. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 1899-1900 | COSSEY DIV. | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| | Executive Engineer | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Special Dy. Collr. ... | 145 | 132 | 47 | 157 | 106 | 42 | 302 | 238 | 89 |
| | Total ... | 145 | 132 | 47 | 157 | 106 | 42 | 302 | 238 | 89 |
| 1900-1901 | Executive Engineer | 4 | 10 | ... | 4 | 3 | 3 | 8 | 13 | 3 |
| | Special Dy. Collr. ... | 52 | 51 | 37 | 277 | 76 | 56 | 329 | 126 | 93 |
| | Total ... | 56 | 61 | 37 | 281 | 78 | 59 | 337 | 139 | 96 |
| 1901-1902 | Executive Engineer | 2 | 7 | ... | 6 | 3 | 1 | 8 | 10 | 1 |
| | Special Dy. Collr. ... | 61 | 55 | 33 | 209 | 130 | 23 | 270 | 185 | 56 |
| | Total ... | 63 | 62 | 33 | 215 | 133 | 24 | 278 | 195 | 57 |

TABLE XV.—CLASSIFICATION OF COMPLAINTS.

| Class. | SUBJECT. | 1899-1900. | | | 1900-1901. | | | 1901-1902. | | |
|--------|---|------------|----------|--------|------------|----------|--------|------------|----------|--------|
| | | Granted. | Refused. | Total. | Granted. | Refused. | Total. | Granted. | Refused. | Total. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| I | Claims for remission in which liability to water-rate is denied ... | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| | ... | 145 | 132 | 277 | 56 | 61 | 117 | 63 | 62 | 125 |
| II | Claims for remission in which liability to water-rate is not denied ... | 76 | 76 | 152 | 46 | 23 | 69 | 28 | 13 | 41 |
| III | Complaints of damage caused by the canals ... | 6 | 7 | 13 | 14 | 3 | 17 | 15 | 3 | 18 |
| IV | Complaints against individuals ... | ... | 3 | 3 | ... | 3 | 3 | ... | 2 | 2 |
| V | Other complaints ... | 75 | 20 | 95 | 221 | 49 | 270 | 172 | 115 | 287 |
| | Total ... | 302 | 238 | 540 | 337 | 139 | 476 | 278 | 195 | 473 |

35.

TABLE XVI.—ESTABLISHMENT.

| Item. | HEAD OF ESTABLISHMENT. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|-------|--|-------------------------------------|-------------|----------------------|------------|------------|--|
| | | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| 1 | Direction and accounts ... | 32,586 | 40,297 | 45,236 | 37,435 | 40,831 | 41,174 |
| 2 | Executive ... | | | | | | |
| 3 | REVENUE MANAGEMENT— (i) Under Deputy Collectors. | | | | | | |
| | Permanent establishment including travelling allowance. | 17,529 | 19,701 | 20,435 | 21,161 | 21,193 | 20,930 |
| | Temporary establishment ... | 656 | 2,428 | 1,869 | 1,969 | 1,390 | 1,742 |
| | Contingencies ... | 1,121 | 1,368 | 1,217 | 1,213 | 1,155 | 1,195 |
| | Headmen's fees ... | 598 | ... | ... | ... | ... | ... |
| | Fees to patwaries ... | ... | ... | ... | ... | ... | ... |
| | Fees to contractors of long-term leases. | ... | ... | ... | ... | ... | ... |
| 4 | Total establishment under Deputy Collectors. | 19,904 | 23,497 | 23,521 | 24,343 | 23,738 | 23,867 |
| | (ii) Under Engineers. | | | | | | |
| | Permanent and temporary establishments, including travelling allowance. | 1,299 | 1,442 | 1,888 | 1,917 | 1,856 | 1,887 |
| | Contingencies ... | ... | ... | ... | ... | ... | ... |
| | Headmen's fees ... | ... | ... | ... | ... | ... | ... |
| | Water-regulation establishment ... | ... | ... | ... | ... | ... | ... |
| 5 | Total establishment under Engineers | 1,299 | 1,442 | 1,888 | 1,917 | 1,856 | 1,887 |
| 6 | Total revenue management ... | 21,203 | 24,939 | 25,409 | 26,260 | 25,594 | 25,754 |
| 7 | Navigation establishment ... | 8,016 | 8,423 | 7,934 | 7,790 | 6,824 | 7,516 |
| 8 | Total establishment charges ... | 61,805 | 73,659 | 78,599 | 71,485 | 73,249 | 74,444 |
| 9 | Collection of water-rates and other revenue by establishment under revenue management. | 1,44,471 | 1,21,408 | 1,40,453 | 1,31,928 | 1,38,927 | 1,37,103 |
| 10 | Percentage of (6) on (9) ... | 14.67 | 20.54 | 18.09 | 18.46 | 18.42 | 18.78 |
| 11 | Rates of total establishment (8) per acre irrigated. | 0.84 | 1.03 | 1.09 | 0.89 | 0.89 | 0.95 |

The Superintending Engineer states :—

“The increase in the cost of establishment under Engineers during the triennial period under review (which includes patrols only) is due to an increase in their number from 16 to 24. Their wages have also had to be raised from Rs. 6 to Rs. 7 and Rs. 8. The additional outlay has resulted in greater efficiency.

36.

TABLE XVII.—NAVIGATION.

| | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|--|-------------------------------------|-------------|----------------------|-------------|------------|--|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Number of miles open ... No. | 72 | 72 | 72 | 72 | 72 | 72 |
| Toll collections ... Rs. | 1,31,468 | 1,30,043 | 89,789 | 97,730 | 89,835 | 92,451 |
| Rate of toll per mile ... „ | 1,826 | 1,806 | 1,247 | 1,357 | 1,248 | 1,284 |
| Tollage on boats per ton per mile ... Pies | 3.17 | 3.19 | 3.08 | 2.94 | 3.13 | 3.05 |
| Number of boats plying cargo and passengers, including empties ... No. | 39,973 | 41,896 | 31,035 | 31,301 | 27,063 | 29,800 |
| Tonnage of cargo and passenger boats, including empties ... Tons | 413,993 | 446,272 | 336,857 | 382,536 | 360,886 | 360,993 |
| Estimated value of cargo, including rafts ... Rs. | 1,25,38,297 | 1,31,15,643 | 89,29,710 | 1,05,94,959 | 87,20,171 | 94,14,947 |

The falling off in navigation receipts during the triennial period under review is mainly due to the opening of the Bengal-Nagpur Railway which has monopolized the transport of timber. The passenger traffic has also considerably decreased.

37.

TABLE XVIII.—MISCELLANEOUS REVENUE.

| PARTICULARS. | AVERAGE OF TRIENNIAL PERIOD ENDING — | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. | |
|---------------------------|---|----------------|----------------------|------------|------------|---|--------|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | |
| Sales of water ... | 1 | 45 | 250 | 250 | 250 | 250 | |
| Water-supply of towns ... | ... | ... | ... | ... | ... | ... | |
| Plantations ... | 39 | 56 | 3 | 28 | 22 | 18 | |
| Other canal produce ... | 30 | 15 | 99 | 47 | 99 | 82 | |
| Water-power ... | ... | ... | ... | ... | ... | ... | |
| Rents of buildings ... | 858 | 1,060 | 1,021 | 824 | 639 | 828 | |
| Fines ... | ... | 2 | ... | ... | 88 | 29 | |
| Miscellaneous... { | Rents of lands | 11,636 | 18,034 | 18,134 | 18,158 | 13,624 | 14,972 |
| | Fisheries ... | 1,476 | 1,465 | 1,138 | 1,189 | 2,365 | 1,564 |
| | Cost of process | 1,076 | 588 | 381 | 262 | 245 | 296 |
| | Sale of old ma- terials. | 336 | ... | ... | ... | ... | ... |
| | Other items ... | 7,429 | 2,386 | 107 | 1,805 | 9,039 | 3,650 |
| Total ... | 22,881 | 23,651 | 21,133 | 17,563 | 26,371 | 21,689 | |

The revenue during the year 1901-1902 was much greater than that for the two preceding years. This was due to the increase in the sale proceeds of the Koyalighats which rose from Rs. 533 in 1900-1901 to Rs. 4,698 in 1901-1902.

TABLE XIX.—PLANTATIONS.

| Division. | 1899-1900. | | | | 1900-1901. | | | | 1901-1902. | | | | 1899-1900. | | | | 1900-1901. | | | | 1901-1902. | | | |
|------------|---------------------|-----------------------------|-------------------------|--------|---------------------|-----------------------------|-------------------------|--------|---------------------|-----------------------------|-------------------------|--------|------------|--------------|---------|-------|------------|--------------|---------|-------|------------|--------------|---------|-------|
| | Trees over 12 feet. | Saplings from 4 to 12 feet. | Seedlings under 4 feet. | Total. | Trees over 12 feet. | Saplings from 4 to 12 feet. | Seedlings under 4 feet. | Total. | Trees over 12 feet. | Saplings from 4 to 12 feet. | Seedlings under 4 feet. | Total. | Receipts. | Expenditure. | Profit. | Loss. | Receipts. | Expenditure. | Profit. | Loss. | Receipts. | Expenditure. | Profit. | Loss. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Cassye ... | 18,002 | 4,997 | 5,283 | 28,282 | 18,654 | 5,903 | 5,418 | 30,005 | 19,224 | 7,103 | 5,821 | 32,148 | 3 | 228 | ... | 225 | 28 | 275 | ... | 247 | 22 | 188 | ... | 166 |
| Total ... | 18,002 | 4,997 | 5,283 | 28,282 | 18,654 | 5,903 | 5,448 | 30,005 | 19,224 | 7,103 | 5,821 | 32,148 | 3 | 228 | ... | 225 | 28 | 275 | ... | 247 | 22 | 188 | ... | 166 |

During the triennial period under review there was a gradual increase in the number of plantations. The receipts were nominal compared with the cost of maintaining them.

TABLE XX.—MAXIMUM FLOODS OF THE YEAR.

| NAME OF RIVER. | Locality. | 1899-1900. | | 1900-1901. | | 1901-1902. | | Highest recorded flood. | |
|----------------|--------------------------------|------------|----------|------------|----------|------------|----------|-------------------------|----------|
| | | Date. | Reading. | Date. | Reading. | Date. | Reading. | Date. | Reading. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Cossye | Midnapore ... { Above weir ... | 24-9-99 | 87.80 | 24-9-00 | 90.30 | 5-9-01 | 89.00 | 19-6-98 | 93.30 |
| | ... { Below ... | 24-9-99 | 86.75 | ... | 89.20 | 5-9-01 | 88.10 | 19-6-98 | 92.20 |
| | Panchkura ... { Above weir ... | 25-9-99 | 83.70 | 23-9-00 | 82.70 | 6-9-01 | 83.30 | 10-10-76 | 85.00 |
| | ... { Below ... | 25-9-99 | 83.70 | 23-9-00 | 32.50 | 6-9-01 | 33.30 | 10-10-76 | 35.00 |
| Rupnarain | Dainan ... | 24-7-99 | 16.00 | 25-9-00 | 16.30 | 26-11-01 | 16.90 | 15-10-74 | 20.00 |
| | Kantapukur ... | 24-7-99 | 16.08 | 29-9-00 | 16.60 | 26-11-01 | 17.00 | 26-8-85 | 16.80 |
| Damodar | Bansberia ... | 24-7-99 | 15.12 | 24-9-00 | 16.42 | 26-11-01 | 14.90 | 26-8-85 | 16.70 |
| Hooghly | Uluberia ... | 24-7-99 | 15.00 | 24-9-00 | 15.2 | 26-11-01 | 15.70 | { 1-9-94 } 31-8-90 | 15.50 |
| Selye ... | Ghatal ... | 19-7-99 | 26.50 | 25-9-00 | 33.00 | 6-9-01 | 29.75 | 25-6-93 | 32.75 |
| Darakeswar | Sheikpore ... | 13-7-99 | 39.29 | 22-9-00 | 44.27 | 5-9-01 | 43.27 | 2-8-87 | 46.02 |

The floods during the triennial period were of ordinary character and little or no damage was done to the head works.

40. TABLE XXI.—MAINTENANCE AND REPAIRS.

| HEADS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|-----------------------------------|-------------------------------------|-------------|----------------------|------------|------------|--|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Extensions and improvements ... | 8,339 | 8,896 | 9,316 | 11,156 | 2,490 | 7,654 |
| REPAIRS. | | | | | | |
| Head works ... | 17,222 | 14,477 | 15,513 | 12,543 | 11,306 | 13,121 |
| Main and Branch Canals ... | 71,132 | 78,180 | 69,132 | 38,548 | 39,532 | 49,071 |
| Distributaries ... | 21,345 | 28,322 | 31,078 | 14,107 | 8,760 | 17,982 |
| Drainage and Protective works ... | 2,186 | 2,918 | 5,629 | 1,361 | 801 | 2,597 |
| Transport Service* ... | 2,357 | 2,956 | 25,724 | 3,063 | 894 | 9,893 |
| Total ... | 1,22,581 | 1,35,749 | 1,56,392 | 80,778 | 63,783 | 1,00,318 |

Regarding reduction in the working expenses a brief account has been given underneath Table III.

* No Transport Service is maintained by Government on the Canal. The figures shown against it are those shown by Examiner in his administrative accounts for "working steamers, &c."

TABLE XXII.—MAINTENANCE AND REPAIRS—CANALS AND DISTRIBUTARIES.

| CANALS, BRANCH CANALS; AND DISTRIBUTARIES. | | COST PER MILE. | | | | | | | | | |
|---|-----|--|----------------------|------------|------------|---|---|----------------------|------------|------------|---|
| | | EXPENDITURE. | | | | | PERIOD UNDER REVIEW. | | | | |
| | | Average of triennial period ending March 1899 | Period under Review. | | | Average of triennial period ending March 1902. | Average of triennial period ending March 1899. | Period under Review. | | | Average of triennial period ending March 1902. |
| | | | 1899-1900. | 1900-1901. | 1901-1902. | | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Canal | ... | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Do. | ... | | | | | | | | | | |
| Do. | ... | | | | | | | | | | |
| Do. | ... | | | | | | | | | | |
| Do. | ... | | | | | | | | | | |
| Do. | ... | 98,531 | 1,15,998 | 55,515 | 52,533 | 74,682 | 20,5273 | 241662 | 115656 | 109444 | 15587 |
| Branch Canal | ... | | | | | | | | | | |
| Do. | ... | | | | | | | | | | |
| Do. | ... | | | | | | | | | | |
| Do. | ... | | | | | | | | | | |
| Distributaries | ... | 28,322 | 31,078 | 14,107 | 8,760 | 17,982 | 10007 | 10981 | 4984 | 3095 | 6354 |
| Do. | ... | | | | | | | | | | |
| Do. | ... | | | | | | | | | | |

There was a very satisfactory reduction in the maintenance charges per mile of both Main Canal and Distributaries. The rate for the Main Canal was brought down from Rs. 2,416 in 1899-1900 to Rs. 1,094 in 1901-1902, and that for the distributaries from Rs. 109 to Rs. 31; the rates are probably as low as can be expected in the future.

TABLE XXIII.—SILT-CLEARANCE AND DREDGING.

| SILT-CLEARANCE BY HAND. | | | | | | | | | | | |
|---------------------------|--|--------|----------------------|--------|------------|--------|------------|--------|--|--------|-----------|
| LOCALITY. | Average of triennial period ending March 1899. | | Period under review. | | | | | | Average of triennial period ending March 1902. | | |
| | | | 1899-1900. | | 1900-1901. | | 1900-1902. | | | | |
| | Quantity. | Cost. | Quantity | Cost. | Quantity. | Cost. | Quantity. | Cost. | Quantity. | Cost. | Quantity. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| | C. ft. | Rs. | C. ft. | Rs. | C. ft. | Rs. | C. ft. | Rs. | C. ft. | Rs. | |
| | 1,351,407 | 6,936 | 2,937,725 | 17,369 | 52,900 | 1,106 | 48,214 | 359 | 1,012,946 | 6,278 | |
| Total | 1,351,407 | 6,936 | 2,937,725 | 17,369 | 52,900 | 1,106 | 48,214 | 359 | 1,012,946 | 6,278 | |
| DREDGING. | | | | | | | | | | | |
| Working Dredgers... | 5,914,566 | 32,497 | 3,796,920 | 26,850 | 3,438,663 | 17,550 | 3,653,501 | 19,568 | 3,629,695 | 21,323 | |
| Repairs to dredging plant | ... | 27,308 | ... | 32,879 | ... | 19,701 | ... | 19,487 | ... | 20,689 | |
| Total | 5,914,566 | 59,805 | 3,796,920 | 59,729 | 3,438,663 | 27,251 | 3,653,501 | 39,055 | 3,629,695 | 42,012 | |

There was great reduction in the quantity of silt dredged during the triennial period under review as, on account of the discontinuance of the mail steamer service, the tidal entrances had not to be dredged as low as before. The tidal reach between Kultapara and Kantapookur was closed for silt clearance in 1899-1900, which explain the large expenditure incurred during that year in silt clearance.

HIJILI TIDAL CANAL.

42.

TABLE I.—CAPITAL ACCOUNT.

| HEAD OF ACCOUNT. | Outlay to end of March 1899. | OUTLAY DURING— | | | Outlay to end of March 1902. |
|--|------------------------------|----------------|------------|------------|------------------------------|
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| DIRECT CHARGES. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Works | 18,04,149 | Nil | Nil | Nil | 18,04,149 |
| Establishment | 5,83,411 | | | | 5,83,411 |
| Tools and plant | 1,42,304 | | | | 1,42,304 |
| Suspense | 22,790 | | | | 22,790 |
| Loss by exchange | | | | | |
| Total | 25,52,654 | Nil | Nil | 88 | 25,52,654 |
| Less—Receipts on capital account | 925 | | | | 1,013 |
| Total direct charges | 25,51,729 | Nil | Nil | (—)88 | 25,51,641 |
| Indirect charges | 63,513 | | | | 63,513 |
| Total outlay, direct and indirect | 26,15,242 | Nil | Nil | (—)88 | 26,15,154 |

The remodelling works on the canal were completed in the year 1896-97. During the triennial period under review no works under original construction were executed.

43.

TABLE II.—LENGTHS OF CHANNELS.

| DESCRIPTION OF CHANNEL. | LENGTH OF CHANNEL IN MILES. | | | | |
|--|-----------------------------|-------------------------------|------------|------------|-----------------------|
| | At end of March 1899. | Increase or decrease during — | | | At end of March 1902. |
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Navigable canals ...Miles | 29 | Nil | Nil | Nil | 29 |
| Branch canals (for irrigation only) | Nil | Nil | Nil | Nil | Nil |
| Distributaries | | | | | |
| Village channels | | | | | |
| Permanent outlets ... No. | | | | | |
| Temporary | | | | | |
| Drainage channels ...Miles | | | | | |
| Area protected from flood ...Acres | | | | | |
| Gross area under command | | | | | |

There was no change in the length of the canal which remained the same, viz., 29 miles from the junction of the lock channel and the Hooghly river at Gowankhally to Kalinagar on the Rasulpur river.

46.

TABLE XVII.—NAVIGATION.

| PARTICULARS. | AVERAGE OF TRIENNIAL PERIOD ENDING - | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|--|--------------------------------------|-------------|----------------------|------------|------------|--|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Number of miles, open ... No. | 29 | 29 | 29 | 29 | 29 | 29 |
| Toll-collections ... Rs. | 58,658 | 84,675 | 51,796 | 45,472 | 45,909 | 47,726 |
| Rate of toll per mile | 2,023 | 2,916 | 1,786 | 1,568 | 1,583 | 1,646 |
| Tollage on boats per ton per mile ... Pies | 3.1 | 3.1 | 2.9 | 2.9 | 2.9 | 2.9 |
| Number of boats plying cargo and passengers, including empties ... No. | 15,180 | 20,704 | 15,446 | 14,428 | 15,238 | 15,037 |
| Tonnage of cargo and passenger boats, including empties ... Tons | 193,523 | 267,391 | 185,808 | 161,598 | 155,581 | 167,662 |
| Estimated value of cargo, including rafts ... Rs. | 45,37,728 | 66,75,876 | 42,07,942 | 38,14,259 | 41,07,558 | 40,43,253 |

The decrease in the tollage receipts is mainly due to the opening of the Bengal-Nagpur Railway in 1899, which diverted the traffic and caused the companies to discontinue their steamer services.

47.

TABLE XVIII.—MISCELLANEOUS REVENUE.

| PARTICULARS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902 |
|---------------------------|-------------------------------------|------------|----------------------|------------|------------|---|
| | March 1896. | March 1899 | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Sales of water | ... | ... | ... | ... | ... | ... |
| Water-supply of towns ... | ... | ... | ... | ... | ... | ... |
| Plantations | 27 | 22 | 17 | 34 | 16 | 22 |
| Other canal produce ... | 527 | 642 | 650 | 648 | 727 | 675 |
| Water-power | ... | ... | ... | ... | ... | ... |
| Rents of buildings ... | 250 | 253 | 327 | 301 | 376 | 333 |
| Fines | ... | 2 | ... | 2 | ... | 1 |
| Miscellaneous { | Rents of lands | ... | ... | ... | ... | ... |
| | Fisheries ... | ... | ... | ... | ... | ... |
| | Cost of process | 437 | 553 | 444 | 892 | 920 |
| | Sale of old materials. | ... | ... | ... | ... | ... |
| | Other items ... | ... | ... | ... | ... | ... |
| Total ... | 1,241 | 1,472 | 1,438 | 1,877 | 2,033 | 1,783 |

TABLE XIX.—PLANTATIONS.

| Divisions. | 1899-1900. | | | | | | 1900-1901. | | | | | | 1901-1902. | | | | | | 1900-1901. | | | | | | 1901-1902. | | | | | |
|-------------------|---------------------|-------|-----------------------------|--------|-------------------------|-------|------------|--------|---------------------|-------|-----------------------------|--------|-------------------------|-----|--------|-----|-------|-----|------------|-----|--------------|-----|---------|-----|------------|-----|--------------|-----|---------|-----|
| | Trees over 12 feet. | | Saplings from 4 to 12 feet. | | Seedlings under 4 feet. | | Total. | | Trees over 12 feet. | | Saplings from 4 to 12 feet. | | Seedlings under 4 feet. | | Total. | | Loss. | | Receipts. | | Expenditure. | | Profit. | | Receipts. | | Expenditure. | | Profit. | |
| 1 | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| Belasore Division | 7,714 | 5,427 | 5,452 | 18,593 | 8,756 | 7,061 | 5,582 | 21,309 | 9,535 | 7,183 | 4,044 | 20,762 | 17 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Total | 7,714 | 5,427 | 5,452 | 18,593 | 8,756 | 7,061 | 5,582 | 21,309 | 9,535 | 7,183 | 4,044 | 20,762 | 17 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |

TABLE XX.—MAXIMUM FLOODS OF THE YEAR.

| NAME OF RIVER. | Locality. | 1899-1900. | | 1900-1901. | | 1901-1902. | | Highest recorded flood. | |
|----------------|-------------|---------------------------------|----------|------------------|----------|----------------|----------|-------------------------------------|----------|
| | | Date. | Reading. | Date. | Reading. | Date. | Reading. | Date. | Reading. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Booghly | Gewankhally | 24th July and 28th August 1899. | 116-80 | 18th August 1900 | 116-10 | 26th Nov. 1901 | 117-60 | Cyclonic storm of 1874. | 123-2 |
| Huidi | Ramogra | 24th June 1899 | 116-20 | 12th " | 116-40 | Ditto | 119-10 | Mr. Verlanne's record without date. | 120-33 |
| Rasulpur | Kalinagar | 20th September 1900. | 114-50 | 12th " | 114-00 | Ditto | 114-90 | 26th August 1888 | 118-50 |

* Cyclonic storm-wave of 26th November 1901.

The floods during the year 1901-1902 were higher than those of the previous two years, but they did no damage to the canal. The heavy local rain in July and August of the year 1900-1901, however, flooded considerable tracts of low-lying rice lands, but good crops were eventually secured, as the lands were drained in time to allow of new seedlings being planted.

50. . TABLE XXI.—MAINTENANCE AND REPAIRS.

| HEADS. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. |
|-------------------------------|-------------------------------------|-------------|----------------------|------------|------------|--|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Rs. | Rs. | Rs. | Rs. | Rs. | Rs. |
| tensions and improvements ... | 6,213 | 1,372 | 2,337 | Nil | Nil | 779 |
| REPAIRS. | | | | | | |
| ad works ... | Nil | Nil | Nil | Nil | Nil | Nil |
| in and Branch Canals ... | 24,148 | 20,430 | 21,543 | 15,071 | 12,584 | 16,399 |
| tributaries ... | Nil | Nil | Nil | Nil | Nil | Nil |
| inage and Protective Works | Nil | Nil | Nil | Nil | Nil | Nil |
| ansport Service ... | 1,989 | 1,340 | 1,092 | 1,714 | 1,758 | 1,522 |
| Total ... | 32,350 | 23,142 | 24,972 | 16,785 | 14,342 | 18,700 |

There was considerable decrease in maintenance and repairs of the main canal during 1901-1902, compared with the two previous years and averages of the two triennial periods ending March 1896 and 1899. The principal item of expenditure was silt clearance by dredging. The expenditure on the working of steamers during 1900-1901 was, however, slightly in excess of the year 1900-1901.

51. . TABLE XXIII.—SILT-CLEARANCE AND DREDGING.

| LOCALITY. | SILT-CLEARANCE BY HAND. | | | | | | | | | |
|---|---|-------|----------------------|-------|------------|-------|------------|-------|--|-------|
| | Average of triennial period ending March 1899 | | Period under review. | | | | | | Average of triennial period ending March 1902. | |
| | | | 1899-1900. | | 1900-1901. | | 1901-1902. | | | |
| | Quantity. | Cost. | Quantity. | Cost. | Quantity. | Cost. | Quantity. | Cost. | Quantity. | Cost. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | C. ft. | Rs. | C. ft. | Rs. | C. ft. | Rs. | C. ft. | Rs. | C. ft. | Rs. |
| Canal | 1,416,821 | 5,935 | 152,337 | 571 | ... | ... | ... | ... | 50,779 | 190 |
| Total ... | 1,416,821 | 5,935 | 152,337 | 571 | ... | ... | ... | ... | 50,779 | 190 |
| DREDGING. | | | | | | | | | | |
| Canal Repairs to dredging plant Rs.* | 628,817 | 5,571 | 1,153,022 | 9,188 | 1,257,573 | 9,183 | 979,147 | 6,288 | 1,129,914 | 8,220 |

* Please see Orissa Coast Canal statement.

During the triennial period under review, two dredgers, viz., Marchant No. III and Bruce No. II, were at work in Ranges I and II of the Canal. The average quantity dredged during the period was 1,129,914 c. ft., at a cost of Rs. 8,220, as compared with 628,317 c. ft. dredged during the period ending March 1899, at a cost of Rs. 5,871. The increased expenditure was mainly due to the silt-clearance of Range I parallel to the supply channel, and of the supply channel itself at Gewankhali, where a large accumulation of silt had taken place.

SONE CANALS.

52. The Capital outlay and other particulars of the Sone Canals are given below:—

TABLE I.—CAPITAL ACCOUNT.

| HEAD OF ACCOUNT. | Outlay to end of March 1899. | OUTLAY DURING— | | | Outlay to end of March 1902. |
|------------------------------------|------------------------------|----------------|------------|------------|------------------------------|
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| DIRECT CHARGES. | Rs. | Rs. | Rs. | Rs. | Rs. |
| Works ... | 1,88,07,937 | 11,164 | 8,824 | 4,082 | 1,88,32,007 |
| Establishment ... | 52,16,639 | 2,531 | 1,972 | 339 | 52,22,081 |
| Tools and plant ... | 21,83,313 | (-)18,575 | (-)1,204 | ... | 21,63,534 |
| Suspense ... | 23 | (-)23 | ... | ... | ... |
| Loss by exchange .. | 52,240 | ... | ... | ... | 52,240 |
| Total ... | 2,62,60,152 | (-)1,903 | 9,592 | 5,021 | 2,62,69,862 |
| Less—Receipts on capital account. | 4,17,150 | 3,371 | ... | 25,172 | 4,45,693 |
| Total direct charges ... | 2,58,43,002 | (-)8,274 | 9,592 | (-)20,151 | 2,58,24,169 |
| Indirect charges .. | 9,17,496 | 354 | 276 | 131 | 9,18,257 |
| Total outlay, direct and indirect. | 2,67,60,498 | (-)7,920 | 9,868 | (-)20,020 | 2,67,42,426 |

The construction estimate of these canals is closed. During the triennial period under review a sum of Rs. 24,070 for works only was spent as chargeable to the open Capital account under 43—Minor works and navigation. The following were the principal works constructed: A gangway to the Dehri headsluices for working the kurries and shutters; alterations to the Kao syphon to enable it to be utilised as an escape during the *kharif* season; an additional escape to the Bhojpur distributary, an escape channel to the Katherain distributary and a number of permanent outlets for village channels.

53. TABLE II.—LENGTH OF CHANNELS.

| DESCRIPTION OF CHANNEL. | LENGTH OF CHANNEL IN MILES. | | | | |
|---|-----------------------------|------------------------------|---------------------------|---------------------------|-----------------------|
| | At end of March 1899. | Increase or decrease during— | | | At end of March 1902. |
| | | 1899-1900. | 1900-1901. | 1901-1902. | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Navigable canals (both for irrigation and navigation) Miles | 218½ | ... | ... | ... | 218½ |
| Branch canals (for irrigation only) ... | 148½ | ... | ... | ... | 148½ |
| Distributaries ... | 1,229½ | (-)12 | ... | ... | 1,217½ |
| | M. Ft. | M. Ft. | M. Ft. | M. Ft. | M. Ft. |
| Village channels ... | 2,981—3,001 | (+)31—490 | (+)46—2,757 | +55—3,705 | 3,114—4,673 |
| Permanent outlets ... No. | 3,596 | (+)222 | (+)225 | +163 | 4,206 |
| Temporary ... | 2,095 | (-)197 | (-)173 | +155 | 1,880 |
| Drainage channels ... Miles | No information available. | No information available. | No information available. | No information available. | ... |
| Area protected from flood ... Acres | 1,733,509 | ... | ... | ... | 1,733,509 |
| Gross area under command .. | ... | ... | ... | ... | ... |

There were no changes in the lengths of the main and branch Canals. In distributaries there was a decrease of 12 miles due to the abandonment of a portion of the Emamganj distributary taking off the Patna Canal. The mileage of village channels increased from 2,981 miles 3,001 feet to 3,114 miles and 4,673 feet at the end of March 1902. The number of permanent outlets increased from 3,596 to 4,206, while the temporary outlets decreased from 2,095 to 1,880. The gross area under command remained the same.

In the following supplementary tables are given the details of the lengths, &c. of the channels by Divisions at the close of the triennial period under review:—

TABLE II(a).—CANALS AND DISTRIBUTARIES.

| NAME OF CANAL. | | 1901-1902. | | | | | |
|--|------------------------|-------------------|-----------------------------|-----------------|----------------------------|---------------------|------------------------------------|
| | | Navigable Canals. | Canals for irrigation only. | Distributaries. | Area protected from flood. | Area under command. | Area provided with distributaries. |
| 1 | | 2 | 3 | 4 | 5 | 6 | 7 |
| | | Miles. | Miles. | Miles. | Acres. | Acres. | Acres. |
| Eastern Division. | Sone { Eastern main | 7½ | ... | 9 | ... | 15,462 | 15,462 |
| | { Patna | 79 | ... | 329 | ... | 390,693 | 364,237 |
| | | 86½ | ... | 338 | ... | 406,155 | 379,699 |
| Arrah Division | { Arrah | 65½ | ... | 206½ | ... | 229,433 | 229,433 |
| | { Dumraon Branch | ... | 40½ | 149 | ... | 209,817 | 209,817 |
| | { Behea Branch | ... | 31 | 115 | ... | 179,104 | 179,104 |
| | | 65½ | 71½ | 470½ | ... | 618,354 | 618,354 |
| Dehri Workshops Subdivision Western Main | | 9 | ... | ... | ... | ... | ... |
| Buxar Division | { Western Main | 12½ | ... | 46½ | ... | 89,480 | 89,480 |
| | { Gurra Choubey Branch | ... | 38 | 55½ | ... | 173,440 | 114,522 |
| | { Buxar | 45½ | ... | 196 | ... | 233,600 | 203,580 |
| | { Chousa Branch | ... | 39½ | 111½ | ... | 212,480 | 134,514 |
| | | 57½ | 77½ | 409 | ... | 709,000 | 542,096 |
| SONE CANALS | | 218½ | 148½ | 1,217½ | ... | 1,738,509 | 1,540,149 |

TABLE II(b).--VILLAGE CHANNELS.

| DIVISION. | CHANNELS COMPLETED TO END OF-- | | | | | |
|------------------|--------------------------------|-------|------------|-------|------------|--------|
| | 1899-1900. | | 1900-1901. | | 1901-1902. | |
| 1 | 2 | | 3 | | 4 | |
| | M. | Ft. | M. | Ft. | M. | Ft. |
| Eastern Sone ... | 535 | 4,884 | 547 | 4,080 | 566 | 4,504 |
| Arrah ... | 1,352 | 4,825 | 1,363 | 64 | 1,372 | 4,420 |
| Buxar ... | 1,123 | 4,328 | 1,148 | 2,154 | 1,175 | 1,029 |
| Total ... | 3,012 | 3,491 | 3,059 | 968 | 3,114 | 4,673* |

* Includes 2,837 miles 3,127 feet of channels made by villagers at their own cost.

TABLE II(c).--OUTLETS.

| DIVISION. | Permanent outlets. | Temporary outlets. | Total. | Area irrigated in 1901-1902. | Area per outlet in 1901-1902. |
|---------------------|--------------------|--------------------|--------|------------------------------|-------------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| | No. | No. | No. | Acres. | Acres. |
| Eastern Sone ... | 1,168 | 710 | 1,878 | 101,248 | 53.92 |
| Arrah ... | 2,120 | 316 | 2,436 | 255,013 | 104.9 |
| Buxar ... | 918 | 854 | 1,772 | 201,233 | 113.56 |
| Total 1901-1902 ... | 4,206 | 1,880 | 6,086 | 557,494 | 91.69 |
| Total 1900-1901 ... | 4,043 | 1,725 | 5,768 | 432,413 | 74.9 |
| Total 1899-1900 ... | 3,818 | 1,898 | 5,716 | 454,093 | 79.44 |

A steady increase in the length of village channels and the construction of permanent outlets is maintained.

The receipts from water-rates and miscellaneous revenue show a steady increase during the period under review, whereas navigation receipts have decreased by almost fifty per cent. owing to the opening of the Mogulsarai-Gaya Railway. The average cost of maintaining the canals has remained almost stationary, so that the net financial result is slightly lower than that of the previous triennial period.

55. The interest charges for and up to the end of the triennial period are given below :—

TABLE III(a).—INTEREST.

| | To end of March 1899. | PERIOD UNDER REVIEW. | | | To end of March 1902. |
|------------------|--------------------------|----------------------|------------------|------------------|--------------------------|
| | | 1899-1900. | 1900-1901. | 1901-1902 | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Interest charges | Rs. 2,38,43,658 | Rs. 10,33,555 | Rs. 10,33,569 | Rs. 10,33,371 | Rs. 2,69,44,153 |

56.

TABLE IV.—RAINFALL.

| | | AVERAGES OF 22 STATIONS. | | | | Average of 3 years ending March 1902. | |
|---------------|-----------|--|----------------------|------------------|-----------------|---|------------------|
| | | Average of fifteen years ending March 1899. | Period under review. | | | | |
| | | | 1899-1900. | 1900-1901. | 1901-1902. | | |
| 1 | | 2 | 3 | 4 | 5 | 6 | |
| Kharif season | August | ... | Inches. 12.64 | Inches. 11.41 | Inches. 7.79 | Inches. 11.34 | Inches. 10.18 |
| | September | ... | 7.26 | 4.04 | 8.46 | 6.06 | 6.19 |
| | October | ... | 2.59 | 1.01 | 2.76 | 0.40 | 1.39 |
| | Total | ... | 22.49 | 16.46 | 19.01 | 17.80 | 17.76 |
| Rabi season | November | ... | 0.29 | 0.00 | 0.00 | 0.13 | 0.04 |
| | December | ... | 0.21 | 0.00 | 1.01 | 0.00 | 0.34 |
| | January | ... | 0.61 | 3.13 | 2.47 | 0.32 | 1.97 |
| | February | ... | 0.61 | 0.47 | 1.40 | 0.05 | 0.64 |
| Total | | ... | 1.72 | 3.60 | 4.88 | 0.50 | 2.99 |
| Whole year | | ... | 44.28 | 54.68 | 39.90 | 29.19 | 41.26 |

In the year 1899-1900 the rainfall of the year although above the average, was deficient and unseasonable during the *kharif* season. In June and July there was heavy rainfall. In August the season for the transplantation of rice, the rainfall decreased and was irregularly distributed. In September the falls were very light, and the rain practically ceased about the middle of the month. In the early part of October during the *hathiya* there was no rain, and none fell till almost the end of the month. In the *rabi* season the rainfall in January was very beneficial to the crop.

In the year 1900-1901 the rainfall, though below the average and much less than that of the previous year, was heavier during both the *kharif* and *rabi* seasons. In August during the transplanting period for rice it was deficient and there was, consequently, a great demand for canal water. The rainfall during the *hathiya* was heavy. The excessive fall during the *rabi* season did much damage to the crop.

The year 1901-1902 was one of very scant rainfall—in fact the lowest on record since 1877-78. Owing to deficiency of rainfall in the *kharif* season, there was a brisk demand for canal water during the rice transplanting season and also in the *hathiya*. Very little rain fell during the *rabi* season, with the result that a very much large area was irrigated than usual.

The following supplementary table shows the rainfall during the “Hathia Nachatra,” and for the succeeding ten days since 1888; it is based on the 22 stations mentioned in subsidiary form IV E(a):—

TABLE IV(a).—RAINFALL DURING HATHIA.

| YEAR. | Average rain-fall during the “Hathia,” 25th September to 8th or 9th of October. | Average rain-fall during ten days after the “Hathia.” | IN THE SHAHABAD DISTRICT ONLY. | |
|----------|---|---|---|--|
| | | | Period of maximum demand for a water in any period of ten days. | Average daily discharge during that period per 100 acres leased. |
| 1 | 2 | 3 | 4 | 5 |
| | Ins. | Ins. | | C. ft. |
| 1888 ... | 0.18 | Nil | 12th to 31st October | 2.00 |
| 1889 ... | 0.02 | 0.11 | 6th to 15th ” ... | 1.92 |
| 1890 ... | 4.15 | 0.86 | 10th to 19th ” ... | 1.48 |
| 1891 ... | 1.45 | Nil | 14th to 23rd ” ... | 2.04 |
| 1892 ... | 0.86 | Nil | 10th to 19th ” ... | 1.90 |
| 1893 ... | 3.13 | 4.39 | 8th to 17th ” ... | 1.58 |
| 1894 ... | 3.97 | 2.67 | 15th to 24th ” ... | 1.31 |
| 1895 ... | 0.90 | Nil | 7th to 16th ” ... | 2.12 |
| 1896 ... | Nil | Nil | 6th to 15th ” ... | 1.85 |
| 1897 ... | 2.42 | 1.86 | 25th September to 4th October. | 1.75 |
| 1898 ... | 0.01 | 1.03 | 5th to 14th October | 1.81 |
| 1899 ... | Nil | 1.02 | 5th to 14th ” ... | 1.35 |
| 1900 ... | 4.71 | 1.66 | 22nd to 31st ” ... | 1.59 |
| 1901 ... | 1.09 | 0.04 | 5th to 14th ” ... | 1.67 |

This table is instructive, as it shows that the *hathia* rainfall was only favourable in five years out of fourteen.

57. TABLE V.—AREAS IRRIGATED.

| YEAR. | Kharif. | Rabi. | Perennial. | Total. | RAINFALL. | | |
|-------------------|---------|---------|------------|---------|----------------|--------------|---------|
| | | | | | Kharif season. | Rabi season. | Year. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| | Acres. | Acres. | Acres. | Acres. | Inches. | Inches. | Inches. |
| 1893-94 ... | 280,528 | 66,458 | 19,790 | 366,776 | 22.24 | 1.34 | 47.66 |
| 1894-95 ... | 258,361 | 41,664 | 17,109 | 317,134 | 32.37 | 3.28 | 58.22 |
| 1895-96 ... | 261,485 | 115,343 | 18,394 | 395,222 | 16.64 | 0.15 | 36.56 |
| Triennial average | 266,791 | 74,489 | 18,431 | 359,711 | 23.75 | 1.53 | 47.48 |
| 1896-97 ... | 316,941 | 215,390 | 22,825 | 555,156 | 12.50 | 2.15 | 32.05 |
| 1897-98 ... | 299,061 | 103,371 | 31,013 | 433,445 | 22.90 | 1.39 | 52.98 |
| 1898-99 ... | 304,778 | 110,035 | 25,983 | 440,796 | 32.51 | 1.93 | 54.91 |
| Triennial average | 306,927 | 142,932 | 26,607 | 476,466 | 22.64 | 1.82 | 46.65 |
| 1899-1900 ... | 305,464 | 123,298 | 25,331 | 454,093 | 16.46 | 3.60 | 54.68 |
| 1900-1901 ... | 323,438 | 90,984 | 17,991 | 432,413 | 19.01 | 4.88 | 39.90 |
| 1901-1902 ... | 331,909 | 195,413 | 30,172 | 557,494 | 17.80 | 0.50 | 29.19 |
| Triennial average | 320,271 | 136,565 | 24,498 | 481,333 | 17.76 | 2.99 | 41.26 |

The average area irrigated during the period under review was greater than that of the two preceding periods. There has been a steady increase of rice-irrigation: the area under *rabi* irrigation is dependent entirely on the amount of rainfall after the 25th September.

TABLE VI.—AREAS IRRIGATED BY LEASES.

| CROP. | AVERAGE OF TRIENNIAL PERIOD ENDING— | | PERIOD UNDER REVIEW. | | | Average of triennial period ending March 1902. | |
|-----------------|-------------------------------------|-------------|----------------------|------------|------------|--|---------|
| | March 1896. | March 1899. | 1899-1900. | 1900-1901. | 1901-1902. | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | |
| Kharif... | Long-term leases ... | 238,677 | 264,039 | 276,657 | 280,532 | 284,679 | 280,622 |
| | Season leases ... | 28,114 | 42,888 | 26,813 | 41,598 | 36,345 | 34,585 |
| | Sale by volume ... | ..... | ..... | 1,277 | 445 | 9,275 | 3,666 |
| | Unauthorized irrigation. | ..... | ..... | 1,717 | 863 | 1,610 | 1,397 |
| Total ... | 266,791 | 306,927 | 305,464 | 323,438 | 331,909 | 320,270 | |
| Rabi ... | Long-term leases ... | 32,875 | 33,505 | 32,866 | 31,663 | 32,638 | 32,389 |
| | Season leases ... | 41,614 | 109,427 | 89,407 | 58,857 | 161,301 | 103,188 |
| | Unauthorized irrigation. | ..... | ..... | 1,025 | 464 | 1,474 | 988 |
| Total ... | 74,489 | 142,932 | 123,298 | 90,984 | 195,413 | 136,565 | |
| Hot weather | Season leases ... | 18,431 | 26,607 | 25,198 | 17,796 | 30,107 | 24,367 |
| | Unauthorized irrigation. | ..... | ..... | 133 | 195 | 65 | 131 |
| Total ... | 18,431 | 26,607 | 25,331 | 17,991 | 30,172 | 24,498 | |
| Total ... | Long-term leases ... | 271,552 | 297,544 | 309,523 | 312,195 | 317,317 | 313,011 |
| | Season leases ... | 82,199 | 168,617 | 140,418 | 118,251 | 227,753 | 162,140 |
| | Others ... | 5,960 | 10,305 | 4,152 | 1,967 | 12,424 | 6,182 |
| GRAND TOTAL ... | 359,711 | 476,466 | 454,093 | 432,413 | 557,494 | 481,333 | |

The gradual increase of long-term leases is satisfactory. In 1901-1902 the maximum area of 317,317 acres was reached. The total area irrigated in that year (557,494 acres) is the largest on record.

TABLE VII.—AREAS IRRIGATED BY DIVISIONS.

| DIVISION AND YEAR. | Long-term leases. | SEASON LEASES. | | | Total. | RAINFALL. | | | |
|-----------------------|-----------------------|----------------|--------|--------------|--------|----------------|--------------|---------|-------|
| | | Kharif. | Rabi. | Hot weather. | | Kharif season. | Rabi season. | Year. | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Inches. | Inches. | Inches. | |
| Eastern Sone Division | 1899-1900 ... | 70,558 | 10,182 | 8,898 | 2,357 | 91,995 | 16.84 | 3.85 | 55.01 |
| | 1900-1901 ... | 70,901 | 14,022 | 4,057 | 1,286 | 90,266 | 18.44 | 4.33 | 42.08 |
| | 1901-1902 ... | 70,379 | 15,504 | 19,955 | 4,410 | 101,248 | 16.33 | 0.06 | 29.91 |
| | Triennial average ... | 70,613 | 13,236 | 7,970 | 2,684 | 94,508 | 16.87 | 2.93 | 42.33 |
| Arrah Division | 1899-1900 ... | 149,148 | 6,446 | 28,937 | 17,255 | 201,786 | 17.55 | 3.51 | 56.13 |
| | 1900-1901 ... | 151,440 | 10,747 | 22,362 | 13,436 | 197,985 | 18.35 | 5.00 | 38.61 |
| | 1901-1902 ... | 154,951 | 11,418 | 69,742 | 18,902 | 255,013 | 14.17 | 0.29 | 24.80 |
| | Triennial average ... | 151,846 | 9,537 | 40,317 | 16,531 | 218,261 | 16.99 | 2.93 | 39.86 |
| Buxar Division | 1899-1900 ... | 89,817 | 12,179 | 52,597 | 5,719 | 160,312 | 15.08 | 4.18 | 54.74 |
| | 1900-1901 ... | 89,854 | 18,137 | 31,502 | 3,269 | 144,162 | 19.56 | 5.86 | 38.48 |
| | 1901-1902 ... | 91,987 | 20,308 | 82,078 | 6,860 | 201,233 | 19.95 | 0.49 | 28.66 |
| | Triennial average ... | 90,552 | 16,876 | 55,859 | 5,283 | 168,569 | 18.19 | 3.44 | 40.63 |

These figures call for no comment. The area under long lease has ostalm reached its maximum.

TABLE VIII. -LONG-TERM LEASES.

| Division. | Leases lapsed on 31st March 1899. | 1899-1900. | | Leases lapsed on 31st March 1900. | 1900-1901. | | Leases lapsed on 31st March 1901. | 1901-1902. | |
|------------------|---|--|--|---|--|--|---|--|--|
| | | Leases entered into during the year. | Total area under lease in the year. | | Leases entered into during the year. | Total area under lease in the year. | | Leases entered into during the year. | Total area under lease in the year. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| Eastern Sone ... | 18,803 | 15,016 | 67,818 | 7,459 | 7,870 | 68,128 | 10,948 | 9,611 | 67,787 |
| Arrah ... | 22,530 | 23,475 | 140,977 | 16,105 | 19,026 | 143,589 | 24,615 | 27,748 | 146,272 |
| Buxar ... | 13,625 | 13,471 | 86,112 | 14,847 | 15,233 | 86,498 | 9,427 | 11,724 | 88,698 |
| Total ... | 54,958 | 51,962 | 294,907 | 38,411 | 42,129 | 298,215 | 44,990 | 49,083 | 302,757 |

The former rate for long leases was Rs. 2 per acre. The existing rate, which was introduced from 1st April 1897 and which will remain in force up to the end of March 1903, is Rs. 2-8 per acre.

To show the popularity of these long leases, and the eagerness of the people for canal irrigation, the areas applied for and refused in each Division during the triennial period under review are entered in the following table :—

TABLE VIII(a)—AREAS APPLIED FOR AND REFUSED.

| Division. | 1899-1900. | | 1900-1901. | | 1901-1902. | |
|-----------------|---|--|---|--|---|--|
| | Area for which appli- cations were received. | Area for which appli- cations were refused. | Area for which appli- cations were received. | Area for which appli- cations were refused. | Area for which appli- cations were received. | Area for which appli- cations were refused. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. |
| Eastern Sone .. | 22,249 | 8,743 | 16,654 | 9,554 | 8,738 | 8,512 |
| Arrah ... | 33,149 | 9,726 | 24,233 | 6,485 | 36,079 | 8,647 |
| Buxar ... | 35,413 | 21,943 | 38,866 | 23,099 | 27,012 | 15,939 |
| Total ... | 90,811 | 40,412 | 79,753 | 39,138 | 81,829 | 33,098 |

On this question of the renewal of leases the Executive Engineer, Arrah Divison, writes as follows :—“The canals are now practically leased up to their limit, and any new lease can only be taken if it is very favourably situated. Additions are possible, however, by reducing the amount of water given to the lease by taking a higher duty or adding to existing blocks without increasing the size of the outlet, and it is chiefly by these means that the increase in the area has been attained, and in a few years will be the only way of extending the area.”

Leases cancelled during the triennial period are noted in the following statement:—

TABLE VIII(b).—LEASES CANCELLED.

| Division. | UNDER RULE 22 (iii). | | | | | | UNDER RULE 24. | | | | | |
|------------------|----------------------|----------------|------------|----------------|------------|----------------|----------------|----------------|------------|----------------|------------|----------------|
| | 1899-1900. | | 1900-1901. | | 1901-1902. | | 1899-1900. | | 1900-1901. | | 1901-1902. | |
| | No. | Area in acres. | No. | Area in acres. | No. | Area in acres. | No. | Area in acres. | No. | Area in acres. | No. | Area in acres. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Eastern Sone ... | 1 | 37 | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil | Nil |
| Arrah ... | Nil | Nil | 2 | 119 | 1 | 104 | Nil | Nil | 2 | 152 | 2 | 349 |
| Buxar ... | Nil | Nil | Nil | Nil | Nil | Nil | 1 | 153 | 6 | 839 | 2 | 93 |

TABLE VIII(c).—UNAUTHORIZED IRRIGATION.

58. The table below shows the areas and amounts assessed under unauthorized irrigation during the triennial period under review:—

| Division. | KHARIF. | | RABI. | | HOT-WEATHER. | | TOTAL. | | |
|---------------------|----------------|----------------------------------|----------------|----------------------------------|----------------|----------------------------------|----------------|----------------------------------|------------------|
| | Area assessed. | Area irrigated but not assessed. | Area assessed. | Area irrigated but not assessed. | Area assessed. | Area irrigated but not assessed. | Area assessed. | Area irrigated but not assessed. | Amount assessed. |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Acres. | Rs. |
| Eastern Sone ... | 313 | 1,970 | 385 | 413 | 7 | 84 | 705 | 2,407 | 4,359 |
| Arrah ... | 848 | 1,678 | 933 | 489 | 58 | 189 | 1,839 | 2,366 | 9,220 |
| Buxar ... | 449 | 2,318 | 156 | 1,228 | ..... | 141 | 605 | 3,687 | 3,726 |
| Total 1901-02 ... | 1,610 | 5,966 | 1,474 | 2,130 | 65 | 414 | 3,149 | 8,510 | 17,305 |
| Total 1900-01 ... | 863 | 3,338 | 464 | 1,111 | 195 | 251 | 1,522 | 4,700 | 9,460 |
| Total 1899-1900 ... | 1,717 | 3,950 | 1,025 | 1,854 | 133 | 244 | 2,875 | 6,048 | 17,461 |

The favourable *Hathia* rain in 1900 caused a reduction in that year. The increase in the other two years was due to the fact that there was no rain during the *Hathia*. The Executive Engineer, Arrah Division, notes:—

"If unauthorized irrigation is to be stopped at all, it can only be done by imposing such a rate as will make the cultivator understand that it will be no benefit to him to take water without authority, even though by so doing he may save his crop and get a fair outturn."

The Superintending Engineer agrees with this, and recommends that the rate should be deterrent. The Chief Engineer, however, does not share this opinion. The average area irrigated but not assessed during the past three years was 4,418 acres. This is not a large area when it is remembered how many long leases there are and the facilities which the villagers have of passing water on to the unleased fields. There can be only one solution of this difficulty and that is for the Canal Officers to see that leases are only granted where the boundaries are suitable and that the outlets are carefully proportioned to the areas leased.

59. The assessments under wastage of water were:—

TABLE VIII(d).—WASTAGE OF WATER.

| Division. | 1899-1900. | 1900-1901. | 1901-1902. |
|------------------|------------|------------|------------|
| 1 | 2 | 3 | 4 |
| | Rs. | Rs. | Rs. |
| Eastern Sone ... | 183 | ..... | 475 |
| Arrah ... | 908 | 660 | 1,493 |
| Buxar ... | 171 | 7 | 531 |
| Total ... | 1,262 | 667 | 2,499 |